MEMOIRS

OF THE

MEDICAL SOCIETY

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VOL. V.

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1799.

PREFACE.

THIS Society, originally formed with the view of promoting medical ſcience in every department, has ſo fully anſwered the purpoſes of its inſtitution, and its Memoirs have been ſo generally read, that nothing further ſeems requiſite for the information of the public, than the names of the Authors, whoſe ingenious Communications have been ſucceſsful in gaining the Society's Medals.

1795. *February* 16.

To Mr. John Maſon Goode, F. M. S. Surgeon, of Guildford-ſtreet, Foundling Hoſpital, *Twenty Guineas*, for his Diſſertation on the Diſeaſes of Work Houſes, Poor Houſes, and ſimilar Inſtitutions; preſented by a Fellow of the Society.

1795. *February* 23.

To Francis Rigby Brodbelt, M. D. C.M.S. now of Spaniſh Town, Jamaica, *The Silver Medal*, for his Paper on Quickſilver found on Human Bones.

1795. *February* 23.

To Dr. Black, of Newry, Ireland, *The Silver Medal*, for his Paper on Angina Pectoris.

1795. *February* 23.

To Dr. Guthrie, of Peterſburgh, *The Silver Medal*, for his Paper on Dyſopia.

1797. *February* 27.

To Dr. Harriſon, of Louth, Lincolnſhire, *The Silver Medal*, for his Papers on the Solution of Iron in the Human and Canine Stomachs by means of diluted Nitric Acid; communicated by Sir Joſeph Banks, Bart.

1797. *February* 27.

To Dr. Thomas, of Santa Cruz, *The Silver Medal*, for his Paper on the Poiſon of Fiſh.

1798. *February* 26.

To Robert Hooper, M. D. F. M. S. F. L. S. of Pembroke College, Oxford, *The Silver Medal*,

dal, for his Paper on the Worms infeſting the Human Inteſtines.

1799. *March* 4.

To James Sims, M. D. Præſ. Med. Soc. Lond. *The Silver Medal*, for his Paper intituled, "Pathological Remarks on the various Alienations of the Mind."

1799. *March* 4.

To William Hunter, Eſq. Surgeon in the Eaſt Indies, *The Silver Medal*, for his Paper on an Aneuriſm of the Aorta.

The following SUBJECTS *are propoſed for the* FOTHERGILLIAN GOLD MEDALS.

For the Year 1799.

1. *The Effects of the different Gaſeous Fluids upon expoſed Surfaces of the animal Body in a ſtate of Health and Diſeaſe.*

2. *The Cow-Pox.*

3. *The medicinal Effects of the Nitric Acid and its Vapour.*

4. *The Treatment of Strictures of the Urethra by the Cauſtic.*

For the Year 1800.

5. *The comparative Advantages of the different Methods propofed for the Treatment of ulcerated Legs.*

6. *The beft Way of treating Eryfipelas.*

7. *The medicinal Effects of Phofphorus.*

8. *The Caufe of the Heat in Fevers.*

For the Year 1801.

9. *The medicinal Effects of Arfenic externally and internally applied.*

10. *The diftinguifhing Characters of Scrophula in its various Stages, and in different parts of the Body.*

11. *The Caufes and Treatment of Deafnefs.*

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The Gold Medal, value Ten Guineas, will be given for the beft Anfwer to any one of the above Twelve Subjects, agreeably to the following Regulations.

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RESPECTING THE MEDAL.

1. Each Diſſertation ſhall be delivered to the Secretary, in the Latin, Engliſh, or French Language, on or before the firſt Day of November, 1799, or at the ſame time of the ſubſequent years.

2. With each Diſſertation ſhall be delivered a ſealed Packet with ſome Motto or Device on the outſide; and within, the Author's Name and Deſignation; and the ſame Motto or Device ſhall be put upon the Diſſertation, that the Society may know how to addreſs the ſucceſsful Candidate.

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To any of whom Communications may be addreſſed.

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ERRATUM.

Page 41, line 13, for *candice*, read *caudice*.

MEMOIRS, &c.

ARTICLE I.

History of a CASE *of* HYDROPHOBIA.

BY WILLIAM GAITSKELL, SURGEON.

Read JANUARY 14, 1793.

DANIEL WHEATLY, a young man, about thirty years of age, of a ſallow complexion, and dark brown hair, by trade a labouring blackſmith, was firſt attacked on Friday the 29th of June, 1792, with a pain in his right arm, on the inner ſide, about two inches above the cubitus, which extended to the axilla, top of the ſhoulder, and pharynx, and was accompanied with a great ſenſe of coldneſs. The next day this pain became general, diffuſing itſelf over the body like rheumatiſm, which he aſcribed to the effect of cold water wantonly thrown over him in the preceding week, while he was hot. He continued thus, by his own account, with wandering pains, and ſlight febrile ſymptoms, till twelve

 o'clock

o'clock the following night (Sunday), at which time thirſt coming on, he requeſted ſome drink, which the moment it was preſented, excited ſuch horror, as to oblige him haſtily to refuſe it. On Monday, our attendance being requeſted, we found him with the following ſymptoms: his pulſe ſoft, but rather quick; tongue moiſt, but white; little thirſt; ſtools and urine natural; pain at the præcordia, and creeping coldneſs over the whole body; great conſtriction about the throat when he attempted to take liquids, and more eſpecially water. When water was produced, and he was invited to drink, his eyes became ſuddenly prominent; his noſtrils were pinched in, and his face pale; theſe ſymptoms were attended with reiterated ſighing. Being aſked why water ſo diſtreſſed him, he replied, that on the approach of the cup to his lips, it produced ſuch peculiar ſenſation, ſuch a hardneſs and pain in his throat, as if the parts were compreſſed between boards.

Being convinced from the ſymptoms that our patient was afflicted with that dreadful diſeaſe hydrophobia, we ſought to inveſtigate its origin, and by interrogating his wife, we collected the following particulars: that about

nine

nine months paſt her huſband was bit in the thumb and fore-finger of his right hand by a dog he attempted to drown, which dog was apparently rabid, though not judged to be ſo by himſelf; that in conſequence of this, he refuſed to have medical aſſiſtance, but anointed the wounds with tallow, and ſuffered them to heal up ſpontaneouſly. In a fortnight's time the wounds appeared perfectly well, and no farther notice was taken of them.

The nature of the diſeaſe being confirmed to us, the next conſideration led to the moſt eligible treatment. After reflecting on the inefficacy which has hitherto attended the moſt powerful and boaſted antiſpaſmodics, as well as the moſt noted empirical noſtra, we concluded to make trial of oil; firſt, becauſe oil is ſeriouſly recommended by the ingenious and learned Doctor James Sims, in the ſecond volume of Medical Memoirs; ſecondly, becauſe this remedy has ſince proved ſucceſsful in the hands of Doctor Shadwel, as notified by the Monthly Review; and thirdly, becauſe beneficial effects are recorded to have enſued on employing oil, in that valuable miſcellany the Gentleman's Magazine *.

* Vide Med. Soc. Memoirs, Vol. III. p. 454.

Oil being the chofen remedy, we began with two tablefpoonfuls at eight in the evening of Monday, which were fwallowed with tolerable eafe; and we enjoined their repetition every two hours, unlefs he fhould be afleep, or the medicine be refufed by the ftomach. In addition to this, we advifed its external application, this application to be general, and to be repeated every four hours. When we vifited our patient next morning, he informed us that all his rheumatic pains had vanifhed, and the medicine remained well upon his ftomach, though it was fometimes fwallowed with eafe, and fometimes with confiderable difficulty; but that the frictions with oil were diftreffing to a degree; exciting violent fpafms, with pain in the præcordia and throat. We therefore omitted the ufe of oil in frictions, but perfifted in its internal ufe, till twenty-four ounces were confumed, when we agreed to reject its continuance, as the fymptoms feemed rapidly augmenting. Being now at a lofs for an antidote, and the oil having failed us, we turned our attention to the Ormfkirk, a packet of which we fpeedily procured, and adminiftered in three feveral dofes—one about twelve at noon (of

the

the Wedneſday), another about ſix in the evening, and the third about ſeven in the morning (of Thurſday), on the evening of which no benefit was perceived from the medicine, but the ſymptoms ſeemed changed for the worſe, our patient becoming timid and fearful—uncommonly ſenſible to the leaſt noiſe or light—reſtleſs, and diſpoſed to delirium. In this ſtate of things, the mind being perfect before, we at laſt had recourſe to opium, which we liberally preſcribed in combination with cinnabar, but no kind of relief was afforded.

On Friday our patient became furious, and was obliged to be ruled by coercion. After fluctuating between mild and furious delirium, with ſome ſhort intervals of ſenſe, on Sunday he ſuddenly expired; ten days from the attack of pain in his arm, and eight from the appearance of hydrophobia.

The parts about the throat were not examined by diſſection, the body not being permitted to be inſpected.

His aliment was butcher's meat, bread, light puddings, and potatoes, all of which he took very ſparingly; but porter was the only liquid he could ſwallow, and that only at particular intervals.

ARTICLE II.

Funesta, Passionis Iliacæ, Historia; partiumque morbosarum post mortem Anatomia.

WICKENS HODGES, CHIRURGUS,

JOHAN. C. LETTSOM, M.D. S.D.

Perlecta die 10mo JUNII 1793.

QUONIAM casus, qualis iste, de quo nupèr tecum sermonem habebam, raró medicinam exercentibus occurrit; rariusque adhuc apud nos, post ægroti obitum, corporis interiores partes inspiciendi, potestas datur; rem totam ordine literis persequar, hoc tibi minùs iningratum fore sperans, quòd per morbi decursum, tum symptomata, tum adhibita remedia, diligenter annotâsti. Multa, ab hâc inusitatâ scribendi ratione (quam vìx primoribus, ut aiunt, labris attigi) dehortantur; tacuisse tamen injurium certè fuisset; præsertìm cum ipse auctor eras, ut quicquid lateret, indagatione haud dubiâ exploraretur.

Morbus, de quo agitur, exeunte Octobre ingruere cæpit, cum dolore intestinorum, alvoque solitâ astrictiori. His mòx supervenit diarrhœa, quæ tridui spatium permansit. Per id tempus pauló remissior fuit, sed nunquam omninò cessavit, dolor. Alvi profluvio subitò conquiescente, redierunt tormina, multò, quam sub primo morbi impetû, graviora.

Cum primum accersitus essem, hoc morbo septimanas ferè duas jam laboraverat æger, quem doloribus suprà memoratis excruciatum inveni. Durities totam regionem umbilicalem occupaverat, cui parti dolor fixus inhærebat. Pulsus debilis, justòque crebrior.

Novembris 8vo.—Nullis adhùc exhibitis remediis, medicamentum catharticum morbo accommodatum, post incisam venam, deglutivit æger; cumque alvus post horas quatuor non responderet, idem, sed nullo prorsus successû, repetitum fuit.—Enema emolliens statìm injiciendum curavi, quod tertiâ quâque horâ (si prius nil valeret) repetendum jussi; hoc insuper addito, ut spatiis intermediis misturæ solutivæ (cum oleo ricini) cochlearia tria subinde assumeret. Fotus communis, et linimentum oleosum per vices frequentèr toto abdomini applicantur.

 Novembris

Novembris 9no.—Nihil adhùc per anum dejicitur, ſymptomata atrociora redduntur. Durities in tumorem conſpicuum ſuccreſcens, ad partes vicinas ſeſe extendit.

A fortioribus irritantibus remediis ſive per os, ſive per clyſteres omnino jam abſiſtebam; ne vel viſcerum inflammatio, vel motus inteſtinorum inverſus augeretur.

Enemata oleoſa ſemel atque iterum repetuntur, veſperi balneum calidum ingreditur. Sub noctem ad vomendum erat proclivis, et infuſo florum chamæmeli adhibito, vermes emiſit duos generis iſtius, quod teretum ſive rotundorum nomine, apud medicos diſtinguitur. Cum vomitio deſiiſſet, doloris ceſſatio, ægro ſpem revocabat; ſed eheu, quam brevis, quam incerta eſt humana felicitas? Ecce enìm, paucis elapſis horis, majori cum cruciatû, ingruunt ſymptomata.

——— 10mo.—Abdominis nulla pars tenſione vacat, ſed in horas augeri et dolorem et tumorem perſentimus. Materiæ fæculentæ magnam copiam unà cum tribus vermibus evomuit.

Enemata, fotus, et embrocationes etiam atque etiam repetuntur; ſed omnia irrita.

Alvi obſtructio et excrementorum vomitus

(duo

(duo ſpecialia iliaci morbi ſymptomata) vitæ periculum palàm denunciant. Huic opinioni aſſentit auctor apud medicos inſignis.—' Etſi "ileus alius alio, inquit, periculoſior ſit, ex-"itialem tamen ut plurimum eſſe experientiâ "conſtat, præſertim eum, cui accidit vomi-"tus materiæ fæculentæ, et ex his nulli eva-"dunt."

Sanitatis recuperandæ ſpes nulla. Omne remedium pertinacitèr aſpernatur morbus, nec quicquam intentatum, niſi incertum illud perfugium, (ad quod in extremis decurritur) nempe, mercurium crudum glutire. De imminente igitur periculo cognatos præmoneo, hujuſque medicamenti experimentum propono; certam, ni id fieret, mortem denuncians. Huic aſſenſerunt et ægrotus ipſe, et propinqui omnes.

Uncias duas mercurii horâ decima matutinâ præſcribo, doſin repetens donec ad decem perventum eſt. Horas tres ſingulis interpono, uti conſtet, quid prior præſtiterit doſis antequam nova ingeratur. Spatiis intermediis clyſteres injiciuntur, et miſtura oleoſa ſolutiva adhibetur.

——— 12mo.—Alvo adhuc aſtrictâ, horiſque

risque decem ab ultimâ hydrargyri dosi interpositis, nil aliud faciendum existimabam nisi ejusdem repetitionem. Sextam ideò hauriebat dosin, unâ cum misturâ heri præscriptâ et decocto hordei pro potû.

Ad mercurii vim promovendam, deambulatio, aliique pro viribus corporis motus instituuntur. vesperi oleum ope syringis in anum injicio, sed nullis remediis vel dolor cedit, vel obstructio. Ex omnibus, quotquot immissa fuere enemata, ne unum quidem in corpore horæ momentum mansit; sed reddita erant, antequam fistula educi posset.—Vomitus semèl tantum per diem revertitur.

——— 13°.—Symptomata hodierna, ab hesternis, vix discrepantia reperio. Vires necessariò, morbi diuturnitate, magis magisque franguntur; pulsus tremulus et frequentissimus. Alternis solum abhinc diebus, redit vomitio. Nunc extremum spiritum adstantibus ducere, nunc reviviscere videtur, et sic perpetuo doloris cruciatû (præter omnium expectationem) vitam usque ad dies octo alios miserrimam traxit.

Abdomine aperto, viscera in hoc statû reperiebantur.

Omentum

Omentum juxta ventriculum, admodum contractum—subnigrum omni fere adipe privatum.

Intestina parva, mole distenta fuere, quali in crassis nunquam observaveram.

Ventriculus et duodenum excremento fluido referta, nullâ omninò putredine affecta.

Jejunum et ileum mirum in modum (ut supra diximus) inflata, sphacelo nigra et putrida reddita.

Cæcum, colique pars superior fæcibus benè coloratis repleta, nullum gangrænæ vestigium præbuere.

Coli partem inferiorem unà cum aliquâ recti portione adeò contractam inveniebam, ut digitus minimus haud facilè inseri posset. Tunicæ tam densatæ, ut musculorum, potius quam membranarum, speciem exhiberent, et multis in locis ità coarctatæ, ut excrementi vix ullum appareret vestigium; portio exigua in hoc toto spatio compressa, subalbida, sevo ovino haud absimilis, perquàm dura, et lateribus intestinorum firmiter adhærens.

Jecur, renes, vesica urinaria et reliqua omnia sana.

His rite perpensis, nemini harum rerum perito

perito dubium eſſe poteſt, cui parti, cuive cauſæ malum attribuatur. Quare clyſteres, et medicamenta cathartica quotidiè ſine ſucceſſû repetita fuerint, liquidò ſatis conſtat. Portio mercurii longè maxima ad coli partem inferiorem ſupra dictam viam ſibi fecerat; ulteriùs verò progredi, ob inſuperabilem obſtructionem (inteſtinorum ſcilicet contractionem, contentorumque duritiem) neutiquàm permittitur. Hinc, deſcenſû per alvum non conceſſo alvi fæces per os rejiciuntur. Ex hac obſtructione, viſceribus proculdubio orta eſt inflammatio; inflammationi neceſſariò ſubſecuta eſt gangræna, quæ per magnam partem tubæ inteſtinalis ſerpens, mortem ægro attulit. Vomitum non tàm frequenter accidiſſe, quam in hoc malo plerumque occurrit, animadverſione ſatis dignum. Rationi non minus hoc quam cætera conſentaneum. Ventriculus a loco affecto longè remotus, in actionem haud ità facile ſtimulatur, ac ſi vitium in jejuno vel ileo fuiſſet ſitum. Eadem, quæ hic enumerata ſunt, ſymptomata, iliacæ affectioni ab omnibus ferè tribuuntur ſcriptoribus; quos verò, quoàd cauſam, ſedemque mali, haud parùm a præſenti diſſentientes inveniemus. Ilei enìm originem in tenuibus inteſtinis con-

ſiſtere

ſiſtere plerique contendunt, et, in morbi definitione, motum inverſum aſſerunt; in hâc autem ilei ſpecie, craſſa, non tenuia, inteſtina ab initio affecta fuiſſe, ſatis patet; ſed neque in his, neque in illis apparuit inverſio. Cauſa diverſa, idem tamen effectus.

VALE.

ARTICLE

ARTICLE III.

A CASE *of* POLYPUS UTERI.

BY A CORRESPONDING MEMBER OF THE MEDICAL SOCIETY.

Read DECEMBER 23, 1794.

A WOMAN thirty-one years of age, miſcarried in March 1791, when ſix months advanced in her pregnancy. At the expiration of three weeks, ſhe was able to follow her uſual employment ; and continued to enjoy a good ſtate of health for the ſpace of three months; when a violent flooding was occaſioned by her carrying a heavy load. This hæmorrhage, as well as an occaſional diſcharge of coagula, attended with great debility, frequently returned, at irregular intervals, during the courſe of the following winter and ſpring.

In May 1792, whenever ſhe was in an erect poſition, a ſmall whitiſh tumour appeared at the os externum, which ſhe found it neceſſary to puſh back, whenever ſhe made water.

water. About three weeks after, the tumour became ſo much enlarged, that ſhe could not make it recede; and, in a ſhort time there appeared, on the outſide of the os externum, an enormous body, of a dark livid hue, of a very putrid ſmell, and of a ſize nearly equal to a bullock's heart. This ſtate of the complaint was attended with continual thirſt, want of appetite, and ſleep.

From the uſe of fomentations and poultices, large ſloughs took place; the ſize and offenſive ſmell of the tumour were much diminiſhed; and it acquired a firmer texture, and the colour of fleſh. Her general health alſo was in ſome degree improved. The tumour ſtill continued as large as an infant's head, and approached ſomewhat to an elliptical form. Its ſurface was rather irregular, and was conſtantly kept moiſt by mucus. The pedicle was more equal in its ſurface, and more yielding to the touch: it was about an inch in length, and ſix inches in circumference. The tumour itſelf was indolent; but by its weight and preſſure occaſioned pain to the parts with which it was connected. She was at times troubled with diarrhœa and night ſweats.

The

The foregoing caſe was communicated to the Medical Society, as a caſe of inverted uterus. On receiving an anſwer from the Society, containing the opinion of ſuch members as were preſent at the peruſal of the paper, the author was convinced of the error into which he, as well as ſeveral other medical practitioners in his neighbourhood, had fallen reſpecting the diſeaſe. The death of the patient, which happened ſoon after, proved to demonſtration, that this opinion was well founded.

The tumour was then much reduced in ſize, of a dark gangrenous hue, and when divided with the knife, proved to be a firm fleſhy ſubſtance. The bladder was rather ſcirrhous: the uterus was in a very prolapſed ſtate; the cervix being drawn down far without the labia pudendi, by the weight of the appending tumour. What therefore appeared as the neck of the tumour, conſiſted of the uterus, covered by a portion of the vagina.

No hæmorrhage occurred ſubſequent to the deſcent of the tumour. The os uteri was not to be diſcovered during the life of the patient, and after her death was not well aſcertained. The polypus was attached to the

whole

whole mouth of the womb; or, if there were any detached parts, the vagina alſo was ſo connected with the polypus, as to give ſuch an appearance. This was one circumſtance which occaſioned the complaint to be miſtaken.

The candid and ingenuous manner in which our correſpóndent acknowledges the miſtake made by himſelf and others, and his readineſs in conſenting to the publication of the caſe, for the ſake of humanity, entitle him to the warmeſt thanks of the ſociety. Although this paper affords no information with reſpect to the cure of any diſeaſe, yet it holds out a ſerious warning to every member of the medical profeſſion, to inveſtigate the nature of diſeaſes with all poſſible care, in their early ſtages. When the complaint here deſcribed, is diſcovered in time, the remedy is eaſy and well known; when it is miſunderſtood and neglected, it is likely to terminate a miſerable exiſtence by a painful death, as happened to the unfortunate ſubject of the preſent memoir.

ARTICLE IV.

Of certain morbid Affections of the Uterus.

By J. C. LETTSOM, M. D. &c.

Read MARCH 30th, 1795.

CASE I.

MARGARET RACKALL, thirty-ſix years of age, was delivered of a dead child on the 26th of January 1791, in the ſixth month of her pregnancy.

Prior to this event, ſhe had been troubled with a cough for ſome months, and it continued in much the ſame ſtate ſince ſhe took to her bed. Early in the above month, ſhe had ſymptoms of fever, which had been augmenting till the time of my attendance, which was on the 10th inſtant, though on the 9th, I was informed, there came on a chillineſs of the extremities, which was ſuc-

ceeded

ceeded by fever, terminating in a ſweat; the whole formation of the paroxyſm laſted four hours, and returned in the ſame manner fourteen hours afterwards. She had alſo laboured under a diarrhœa for ſome days, and the evacuations were extremely offenſive. A nauſea likewiſe diſtreſſed her, on which account a vomit had been taken the day before. The pulſe was at this time 130. The urine for the ſpace of three days had depoſited a lateritious ſediment, and ſhe had even begun to take the Peruvian bark.

The languor was indeed extreme; the countenance appeared contracted and melancholy; aphthæ had appeared, though in a degree.

I ordered a drachm of bark to be taken every two hours, with three drops of thebaic tincture in each doſe, to eaſe pain and prevent a diarrhœa.

Jan. 11. She had a ſevere rigor, and violent hot fit, and ſweated conſiderably; there was neither pain nor tumeſcence of the abdomen. After this paroxyſm the ſame medicine was ordered every hour, with only the occaſional uſe of thebaic tincture. The legs and abdomen were fomented with the

common fomentation. The diarrhœa did not return; the urine depofited a copious fediment. In the night fhe had a more violent rigor, which was fucceeded by very trifling heat, but foon ceafed, and fhe expired in cold clammy fweats.

DISSECTION.

On the next day W. Norris opened the abdomen: the omentum appeared to have been drawn out of its natural pofition, and was clofely tucked under the inteftines on the left ileum; but this part, as well as the inteftines and the abdominal and thoracic vifcera, were in a found ftate, except the os tincæ of the uterus, where a fphacelus had taken place, and extended about half an inch.

CASE II.

The firft appearances of indifpofition of M. L** were, a fenfe of weight and of bearing down forwards, with a frequent defire to make water, and a dull, fometimes a fhooting pain, of the vagina: conftipation of the

the bowels gradually increaſed, and at length, an uneaſineſs in paſſing ſtools.

My attendance was requeſted in the month of June 1791, after ſhe had laboured under theſe complaints full three months. About three years before ſhe was delivered of an healthy child, and recovered without the intervention of any particular incident, till the preſent period: ſhe was even now about the houſe as uſual, but found exerciſe ſo fatiguing as to conclude keeping within doors.

The menſes appeared twice or thrice in the month in ſmall quantities, attended with acute pain in the pelvis, and a ſenſe of forcing forwards and downwards, as if a large body were deſcending: that ſhe was coſtive has been remarked, and now the ſtools in paſſing excited the ſame pain in the pelvis. For a week or two before I viſited her, ſhe had had rigors, and ſometimes a hot fit reſembling an intermittent; theſe came on at irregular periods, two or three times in the week, and at length every day, ſometimes twice a day, or every other day; but the Peruvian bark, which ſhe took freely, appeared to have no effect on theſe paroxyſms.

I imagined at the firſt, that there might

be ſome morbid affection of the coats of the bladder, and ordered a combination of cicuta, opium and calomel; but this affording no other relief, than what might reſult from the opium alone, it was given without any addition.

The patient having at length conſented to be examined per tactum, the reſult aſcertained the diſeaſe to exiſt in the uterus; the os tincæ was found enlarged and thickened, and of a ſcirrhous hardneſs. The following plan was then adopted.

℞. Arſenici albi pulv. gr. xvj.
Salis nitri purif. gr. xxxij.
Coque in vaſe vitreo cum aq. diſtill. ℥iv. donec arſenicum penitus ſolutum fuerit; dein adde
Spirit. lavend. comp. ʒij.
Aq. puræ ℥v. ut ſt. menſura ℥viijſs. et facta unica ebullitione filtrentur ℥viij.

℞. Hujus ſolutionis gut. xij.
Aq. menth. ſativ. ʒiſs.
— Cort. Aurant. Spirit. ʒiſs. ft. Hauſt. augendo ſenſim doſin ſolutionis uſque ad gutt. xvj.

Of the draughts ſhe took one three times in the 24 hours, and continued them for the ſpace of a month. Of opium ſhe took from five to ten grains every day, and ſometimes even

even twelve grains. Pain and debility however increafed; the appetite failed; frequent vomiting enfued, and accelerated the debility, and fhe expired three months after my firft attendance.

CASE III.

ELIZ. FARROW, a widow about 50 years of age, who had paffed the time of menftruation, was firft indifpofed in the month of January 1791; the principal complaints at this time were, a tendency to naufea, fometimes excited to vomiting; and, a difficulty in making water, accompanied with more or lefs pain.

Thefe continued in different degrees of violence till the 24th of the following September, when I was confulted. The patient kept a public houfe, but had the character of being temperate; her complexion, however, was inclined to fwarthy, which led me to fufpect fhe had occafionally ufed fpirits, efpecially as her appetite for food had greatly diminifhed, and what little fhe did take, was often ejected: there was likewife a fulnefs about the fcrobiculus cordis, which

ſtrengthened my ſuſpicion of bilious congeſtion. The pulſe was weak, but not irregular. The pain which ſhe originally had in making water, was ſtill diſtreſſing; ſhe explained the forcing pains as like thoſe of labour, with a ſhooting acute uneaſineſs, during and after micturition, up the vagina. She was never free from ſome ſenſation of load or preſſure about the perinæum. This irritation to make water frequently waked her in the night, and compelled her to attempt its expulſion, though little was diſcharged, but always with pain. The ſediment or mucus was that kind which occurs in cyſtorrhœa, though higher coloured than is uſual.

As the pain ſeemed particularly to center about the ſcite of the bladder, I ſuſpected the ſymptoms might reſult from its morbid ſtate, and the vomiting from bilious congeſtion: there were however other ſymptoms, that excited a doubt of the ſuppoſed ſeat of the diſeaſe.—The patient had ſome irregularity in going to ſtool, and conſequent pain, that did not appear connected with the ſtate of the bladder.

When I firſt attended, ſhe was in general coſtive, with intervals, however, of the contrary

trary ſtate, and under an opinion of bilious congeſtion, I preſcribed laxative remedies, hoping that by ſoliciting evacuations through the rectum, the vomiting would be relieved, and the appetite and ſtrength thereby improved.

Although plentiful evacuations were procured, the vomiting was not relieved, and the lancinating pains of the pelvis continued to increaſe, which induced a ſuſpicion of uterine miſchief. On this account W. Norris was conſulted, who, from a careful examination, concluded that there was a morbid enlargement and induration of the uterus.

The patient at this time expreſſed a ſtrong averſion from medicine, although her pain and weakneſs increaſed ; and a diarrhœa frequently occurred. However, ſhe occaſionally took anodynes to mitigate her ſufferings, of which ſhe was finally relieved by death on the 26th of October, when ſhe was opened by the ſurgeon, accompanied by T. Lane, her apothecary who viſited her throughout the diſeaſe.

DISSECTION.

On opening the body the liver was found of a ſmaller ſize than uſual, of a light greyiſh colour, and of that degree of hardneſs which might be termed ſcirrhous. The duodenum, particularly that part of it which is contiguous to the ſtomach, was inflamed. The uterus was ſomewhat enlarged, and very hard through its whole ſubſtance; and, from its fundus externally, immediately under the peritonæal coat, there aroſe a tumour about the ſize of a common walnut: in this tumour, which was of the ſteatomous kind, beſides the uſual contents, there was a thin plate of bone, which had a number of ſharp ragged points, that pierced its inveſting membrane, and might account for the inflamed ſtate of the ſmall inteſtines in contact with it, for which no other obvious cauſe could be diſcovered.

From many of the ſymptoms firſt deſcribed, ſome affection of the bladder or urethra, had been ſuſpected, but in theſe, and all other parts, except thoſe already mentioned, no diſeaſe whatever appeared.

The

The cafes I have curforily related, came under my obfervation in the year 1791. I have fince attended many fimilar inftances, with various fuccefs, but I have not feen one fatal cafe fince, afcertained by diffection. When any unfortunate event has fucceeded our practical treatment, it becomes us to retrace the whole ftate of the difeafe, and to confider under fimilar appearances, fhould they ever again occur, whether any other mode of treatment might be rationally adopted.

With refpect to the firft cafe, at the period of my attendance, I cannot conceive that any other plan merited preference: from the violence of the paroxyfm fhe had juft merely furvived, I expected that the next would certainly prove fatal. I have in fome cafes, aided the immediate effect of the bark, by giving it likewife in clyfters, with manifeft advantage, efpecially when it cannot be taken in fufficient quantities by the mouth, or is ejected from the ftomach.

Were a cafe fimilar to the fecond again to prefent, I fhould adopt a different treatment. I have fince frequently feen uterine affections refemble intermittents, and in no one in-

ftance

ſtance has the bark afforded relief, but it has often proved injurious.

Indeed, ſo far from adminiſtering tonics, I ſhould give relaxants and evacuants; but on the general treatment of ſimilar diſeaſes I ſhall revert in a ſubſequent page.

In any acute affection of the uterus arſenic muſt be pernicious; and, as to its exhibition in ſcirrhous or chronic diſeaſes of this viſcus, I conclude, from the experience I have had, that it affords no benefit; and, as it is a mineral of dangerous powers, in unſkilful hands, it ought to be interdicted in the complaints I have deſcribed.

I lament that I did not treat this patient in a mode I have ſince found ſo ſalutary; whether ſhe would have been cured or not cannot now be aſcertained, but I think, ſhe might have enjoyed a prolongation of life, and, with a degree of comfort.

The third caſe appeared by diſſection to be a good deal complicated, and, as the patient was not diſpoſed to adopt the very aid ſhe aſked for, no plan could be carried into execution, and probably, from the high ſtate of diſeaſe, no remedies could have availed.

It

It is a melancholy addition to the catalogue of female miſeries, that the uterus is a part which frequently becomes the ſeat of excruciating torment.—Sometimes it becomes extremely diſeaſed by a ſcirrhus, ulcer, or cancer, and yet the patient ſhall drag out a long, though painful, exiſtence. Other inſtances of apparently trifling affection of this viſcus, ſhall not only be attended with acute ſuffering, but likewiſe ſucceeded by early fatality: probably, however, were the primary ſymptoms attended to, and that ſtate of diſtreſs and pain which is connected with the firſt ſtage of morbid turgeſcence or inflammation, much of the ſubſequent miſchief would be obviated, and health reſtored; in which I am confirmed by numerous examples which have lately come under my obſervation.

As the pelvis contains parts frequently affected, as well as the uterus, it is firſt requiſite that the diſeaſe be duly characterized and aſcertained. This viſcus is ſituated between the rectum and bladder, both liable to morbidity, and to pains not very diſſimilar to thoſe reſulting from the uterus.

When the rectum is affected either with the

the hæmorrhoids or ſcirrhoſity, the uneaſineſs is more particularly perceptible in the neighbourhood of the rectum, or at the anus. The former diſeaſe ſhews itſelf frequently either by the diſcharge of blood, or, ſome external fulneſs about the anus; at the ſame time the conſtitution of the patient is rarely impaired by it, and ſometimes experiences relief; and, ſhould any doubt remain, the diſeaſe itſelf may be aſcertained by the touch. Occaſionally there is ſome uneaſineſs or difficulty in micturition, but not often; and, when it does attend, it is trivial. The pain in going to ſtool is more exquiſite; ſo it is in the ſcirrhous rectum: but in this latter affection the needing to ſtool is more violent, and, the fæces never paſs without being contracted, ſo as to ſhew they have been diſcharged through a very narrow aperture; they are generally thin, ſpirting, and frequent, and, the conſtitution becomes more diſordered than from the hæmorrhoids; difficulty of making water is not indeed always a concomitant; and laſtly, it may be aſcertained by examination; ſo indeed may moſt diſeaſes of the uterus, but patients reluctantly ſubmit to this criterion.

Affections of the uterus are not reſtricted

to any particular age, it is uſually, however, about the commencement of the menſes, and their ceſſation, and occaſionally, in any part of the intermediate time, and not unfrequently after geſtation, in conſequence of ſome change brought on in the ſyſtem of the uterine veſſels; but in ſuch caſes it is probable that a morbid diſpoſition in the uterus had previouſly exiſted, and which, perhaps, would have ſhewed itſelf in ſome period of life independently of parturition.

The morbid affections of the uterus, whether ariſing from active inflammation, chronic enlargement, or ſcirrhoſity, are attended with a concatenation of ſymptoms ſufficient to diſtinguiſh them from affections of the rectum or bladder, though in ſome meaſure the ſymptoms of both. I know of no other viſcus that combines that peculiar ſenſe of load about the loins; that bearing down forwards and backwards; that dull pain of the upper and internal parts of the thighs; that throbbing uneaſineſs after going to ſtool, and, pricking ſenſation up the vagina and urethra after making water; that diſpoſition to nauſea and vomiting of mucus, with flatulence of the lower belly limited to no part of the

day; and befides, a difcharge by the vagina, fometimes green or yellow, fometimes bloody or fœtid, always different from the fluor albus, and, always with pain from external preffure on the abdomen. In women attaining puberty, of a fcrophulous habit, affections of the uterus are apt to occur; but, in general, more frequently a little before or after the ceffation of the menfes. In young women fhould the menfes not appear, or, when appearing, in fmall quantity, with a chlorotic complexion, even were many of the complaints above mentioned to exift, I fhould rather afcribe them to an indolence of habit, which required chalybeates, deobftruents, and other means of ftrengthening the conftitution. The morbid fymptoms that indicate fcirrhus or inflammation, are prevalent only in a very different ftate of conftitution; there is ufually rather a florid than a chlorotic appearance, and, the bearing down and lancinating pains are not prefent in chlorofis, nor the uneafinefs in making the excretions.

In general perfons fubject to the dangerous affections I have defcribed, are thofe who have been liable to much pain before, and at

the

the time of, menſtruation, and to a profuſe diſcharge, rather than to a diminiſhed quantity. Theſe circumſtances have attended for many years before complaint has been made, and the ſex is apt to aſcribe ſuch pains to the natural conſtitution connected with the menſes, rather than to any morbid ſtate of it, till at length weakneſs and agony have convinced the afflicted object of the neceſſity of medical aid; that aid, however, if not too long poſtponed, may, by prudent application, be productive of future relief and comfort.

Were the uterus really in a ſcirrhous ſtate, perhaps little more could be expected than palliatives; but, as I have ſeen all the ſymptoms deſcribed really preſent themſelves, and removed by medical aid, before the ſcirrhous ſtate be actually confirmed, and I conceive, in general, there is ſo much pain, that the patient would be compelled to aſk aſſiſtance previouſly to this confirmed malady, at the ſame time there is abundant encouragement to attempt the means of cure, and theſe means are ſo ſimple, as to require very little illuſtration.

I conſider, that in all theſe caſes there is

 more

more or leſs of inflammation preſent, and, in general, bleeding from the arm may be occaſionally premiſed; the repetition and the quantity will depend upon the appearance of the blood, the degree of pain, the ſtrength of the patient, and the ſtate of the pulſe: the two latter are, however, very deceptive, as the diſeaſe, in the firſt place, requires much confinement to the bed or couch, which ſoon induces a ſpecious debility; and the pulſe is generally weak, though frequently quick. But the evacuation I lay the moſt ſtreſs upon, is local or topical. I would adviſe from four to ſix leeches, to be applied either a little above the os pubis, or to the perinæum, and theſe ſhould be repeated every ſecond or third day, if the pain and other ſymptoms of uterine affection perſevere. In an inſtance lately under my care, beſides three ſmall bleedings by the arm, the patient had eight times ſix leeches applied as above directed.—This plan, with other antiphlogiſtic means, preſerved an excellent woman to ſociety, who, otherwiſe, I have ſufficient reaſon to conclude, would not at this time have been in exiſtence.

If the patient ſhould ſuffer extremely, the

 pain

pain may be mitigated by injecting a folution of ten grains of opium into the vagina, or by a common anodyne clyfter per rectum. From the mode of treatment I have fuggefted, it will obvioufly occur, that the bowels fhould be kept laxative, by the moft emollient means, fuch as caftor oil, manna, magnefia, or rhubarb. Every ftimulating cathartic fhould be avoided, and, in general, falts prove ftimulant in this difeafe; lenient clyfters may occafionally be injected, which act not only as a laxative, but likewife as an internal fotus. In like manner external fomentations have confiderable benefit, and particularly after the application of leeches, the bleeding from which they tend to promote.

A blifter may be applied to the lower region of the abdomen, as well as the perinæum; they are not apt to produce ftrangury, and tend to divert uterine inflammation.

I did formerly expect benefit from the ufe of cicuta, but have not obferved any falutary refult from experiment.

Mercury fhould not be given during the inflammatory ftate of the uterus, and I have no experience of its good effects afterwards.

If it were to be tried, I ſhould prefer the mercurial ointment rubbed upon the perinæum; nor do I know whether or not iſſues to the thighs would prove uſeful.

After the patient is relieved, periodical bleedings in the arm, and more eſpecially local ones by leeches, as before recommended, ſhould be continued for ſome months, to take off the determination of blood to the uterus.

Mild, ſoft, cool diet, and ſippings not of a heating tendency, ſhould be long perſevered in. A decoction of ſarſaparilla, with cow's or aſs's milk, has been drank with long perſeverance, and apparently with advantage.

ARTICLE V.

Case of Hæmatocele, with an Account of the Efficacy of the Zanthoxylon.

BY JOHN HARRIS, M. D. C. M. S. KINGSTON, JAMAICA.

[Communicated by Mr. W. CHAMBERLAINE, F.M.S. and Secretary to the MEDICAL SOCIETY.]

Read DECEMBER 1793.

A GENTLEMAN, aged 40, in confequence of a fall from his horfe, received a blow on the fpermatic chord, where it paffes over the angle of the pubes. Shortly after the accident, a tumor arofe on the part where the injury was received, and the fcrotum was enormoufly fwelled and painful. The cafe, at firft, was miftaken for prolapfed omentum, and afterwards for a fcirrhous tefticle. It was not until the difeafe had continued fome time, the fcrotum, highly inflamed, had put

on a gangrenous appearance, and the patient's health had been conſiderably reduced, that Dr. Harris firſt ſaw him.

There was at that time an evident fluctuation, attended with a kind of hardneſs; which made him anxious for a conſultation with another practitioner, and Dr. Heney, of St. David's, was called in.

It was agreed to puncture the tumor with a trocar; but nothing followed except a few tea ſpoonfuls of bloody ſerum, and grumous fetid gore. The patient's ſtrength being very much reduced, the bark was given in doſes of ʒj, every hour, and a ſeton paſſed from the wound downwards as far as could be done with ſafety to the teſticle.

This not anſwering, the two orifices were laid into one by the knife, which gave vent to a very large diſcharge of intolerably fetid grumous blood.

The tunica vaginalis was three quarters of an inch in thickneſs, and totally inſenſible to the knife.

A conſiderable and obſtinate hemorrhage followed, which, however, at laſt yielded to the application of Ruſpini's ſtyptic.

The wound not healing as could be wiſhed for,

for, by the common dreſſings, the powder of *Zanthoxylon* was propoſed as a dreſſing by Dr. Harris, who had before ſeen many pleaſing inſtances of its antiſeptic qualities, and had experienced its efficacy in a variety of obſtinate and ill-conditioned ulcers. This was agreed to by Dr. Heney, who alſo was well acquainted with its utility.

Accordingly, a doſil of fine lint, armed with a digeſtive, was rolled in the powdered Zanthoxylon, ſo as to take up as much as poſſible, and introduced into the cavity; this was done twice a day, after ſyringing with a ſtrong infuſion of the powdered Zanthoxylon in boiling water; in two or three days the gentlemen were moſt agreeably ſurpriſed at the antiſeptic power of that bark, for the fetor, which was before intolerable, was not only corrected, but the ſcirrhous ſides of the tunica vaginalis became every day ſofter, and recovered their ſenſibility, diſcharging a laudable pus. The Peruvian bark, and wine, were freely preſcribed, and the patient rapidly recovered, the teſticle being reduced to its natural ſize and power.

APPENDIX

TO THE FOREGOING ACCOUNT.

By W. CHAMBERLAINE, Surgeon, F. M. S.

A botanical account of the Zanthoxylon, with an accurate drawing of it, and the hiſtory of ſeveral caſes in which it had ſucceeded beyond expectation, Dr. Harris aſſures me, he committed to the care of a confidential friend, to be delivered to me for the purpoſe of being laid before the Medical Society; but the ſhip by which theſe articles were ſent was captured.

The part uſed is a powder from the bark of the root of a tree, which, from ſpecimens of the root now in my poſſeſſion, and from every other document, appears to be that called Prickly Yellow Wood, or Yellow Hercules, much uſed for making the heading of ſugar hogſheads, for bedſteads, and many other purpoſes, in Jamaica; it is a tall, ſtraight tree, eaſily diſtinguiſhable from all others, in appearance not greatly diſſimilar to our aſh; the bark of the trunk is thickly beſet with prickles,

prickles, which, in the young trees, are pointed, but obtufe in the more aged. The wood is of a very bright yellow colour, whence its name Ξανθοξυλον. The flowers, which bear fome refemblance to the Caffia fiftula, are fucceeded by a pod, flattifh, and not much unlike in fhape and fize to a man's thumb; this pod is at firft green, then red, and laftly turns black when ripe, and contains three or four compreffed feeds.

It is called by Browne *, *Zanthoxylum foliis oblongis obovatis* pinnatis *et leviter crenatis; floribus racemofis, candice fpinofo, ligno fubcroceo.*

Dr. Harris, by a former fhip, fent me a fmall box of the powder, which I have had opportunities of trying in three or four cafes of very bad ulcers of the legs. In the firft I had attended the patient from January to July with very little fuccefs; but, on changing the dreffings for the powder of Zanthoxylon, an almoft immediate alteration took place; the wound was quite healed up by the end of September, and the patient has continued ever fince perfectly well.

* Nat. Hift. Jamaica, Sect. 4. *Pentandria Pentagynia.*

My

My ſecond patient had been in an hoſpital ſix weeks in May and June, and was diſcharged cured, but the ulcer ſoon after broke out again, and continued to increaſe to the extent of five inches and a half in length, and four in breadth, which were its dimenſions when I was firſt called to look at it; I ordered that it ſhould be fomented, and, after waſhing it with milk and water, ſprinkled the powder liberally all over the ſurface of the ulcer, and covered the whole with plantain leaves, rejecting all greaſy ointments. This was perſiſted in twice a day, and a cataplaſm of bread and milk laid over all at each dreſſing. Internally ſhe took hydrarg. cum ſulph. & nitr. āā gr. xv. bis die. In a week the ulcer was leſs than half its former ſize, looked perfectly clean, and put on every appearance that could be wiſhed for, and ſoon became perfectly well.

A poor woman had one of the worſt ulcers I ever ſaw; ſhe was very much reduced through want of ſleep, from the excruciating pain cauſed by the ulcer, which ſhe ſuffered night and day, without intermiſſion. I gave her ſome of the Zanthoxylon powder, and inſtructed her how to uſe it. In five

days

days ſhe walked to my houſe, and was able to come every morning to be dreſſed. I gave her no medicines, and enjoined no regimen, but the leg was perfectly healed, by the application of the Zanthoxylon alone, in a month, and ſhe now follows her buſineſs of a laundreſs, no veſtige of any ulcer remaining except a little redneſs.

On the Efficacy of the Zanthoxylon.

BY THOMAS HENEY, M. D. OF ST. DAVID'S, IN THE ISLAND OF JAMAICA.

[Communicated by JOHN HARRIS, M. D. of KINGSTON, JAMAICA, C. M. S.]

Read JANUARY 20th, 1794.

To Dr. HARRIS.

DEAR SIR, *St. David's, Sept.* 12, 1792.

I REGRET that the limits of a letter will not give you a minute account of the ſucceſs of my experiments with the Zanthoxylon. The firſt intimation of its virtues I owe to you; and at the ſame time witneſſed its ſurpriſing efficacy in the caſe of Mr. G—n's hæmatocele. However ſtrong my reliance on your account of it at that period, and on the conviction of my own ſenſes in Mr. G—n's caſe, yet the deceptions practiſed in the world by the exaggerated accounts of the *cicuta*,

cicuta, the *flammula jovis*, the *arnica*, the *digitalis purpurea*, and others, by authors of no inconfiderable name in the medical world, had infufed fo large a portion of the fceptic through my medical creed, that I determined nothing lefs than repeated *autopfia* fhould convince me. I therefore inftituted my experiments with as unprejudiced and candid a mind as ever a fon of Hippocrates did. I muft fincerely own, I loft fight of the warning of that great mafter, "Experimentum periculofum;" but never of the preceding text, "Judicium difficile," until, by repeated experience, I had the fulleft conviction of its efficacy, in numberlefs cafes, and principally thofe I fhall mention.

You well know how difficult it is to bring the foul ulcers, to which the unhappy children of Africa are in this climate fubject, to fuch a condition as promifes a fpeedy cure, particularly fuch as are attended with lofs of fubftance, and how frequently we are obliged to have recourfe to the unpleafant ufe of efcharotics to remove thofe fungous excrefcences which the habitual naftinefs of the negroes, and the irritation of infects, (which in tropical countries inhabit every broken particle

particle of animal and vegetable ſubſtances) produce.—To remedy the inconveniencies ariſing from theſe cauſes, I determined to make trial of the Zanthoxylon, in manner and form as we had done in Mr. G—n's caſe. I therefore laid aſide the tinctures of myrrh and guaiacum, Hungary water, phagædenic water, lime water, and every other uſual application, and commenced the uſe of the Zanthoxylon by bathing the ulcers with the decoction of that bark, and intermixing it with the dreſſings.

For the purpoſe of more minutely aſcertaining its efficacy, I confined the patients thus treated, in the ſame place with others whoſe ulcers were of the ſame date and condition, and whom I treated with the lotions, dreſſings, and poultices, in common uſe.

In addition to the external uſe of the Zanthoxylon, I ordered a couple of ounces of its bark to be boiled with the ſarſaparilla, in lieu of the lignum vitæ, for their drink.

The ulcers of my Zanthoxylon patients, in the courſe of a few days, invariably threw off the ſloughs and other foul appearances, and exhibited healthy and well-coloured granulations beneath, diſcharging laudable and well-

well-conditioned pus. Their co-patients, whether treated with mild, emollient applications, or with ſtimulant dreſſings, exhibited, in their ſeveral ſituations, ſuch ſlow appearances of amendment, as finally urged me to uſe the Zanthoxylon to all.

A negro woman, who had been affected for many years with ſeveral large phagædenic ulcers, from the mid-thigh to the ancle, was put under my care. A fetid ſanious diſcharge, together with fungous and almoſt gangrenous excreſcences, had given to the ulcerated ſurface ſo horrid an appearance and ſtench, as was highly diſguſting to every one who ſaw or approached it, and intolerable to the wretched patient herſelf.

For ſix weeks after the firſt inſpection of the ulcers, eſcharotics, warm ſtimulating dreſſings, tight bandages, were tried to no purpoſe. In place of theſe, I commenced the uſe of the Zanthoxylon, by bathing the ſores with the decoction, intermixing the powdered bark in the dreſſings, and giving the bark in decoction, in the place and proportion of the lignum guaiacum; the events anſwered my expectations, the diſcharge ſoon acquired the condition of laudable pus; well-coloured granulations,

granulations, in the happieſt form, appeared, and ſaturnine ointments finally effected the cure in eight weeks. Numberleſs were the experiments made by me and my aſſiſtant ſubſequent to this in ſimilar ulcers, with equal ſucceſs. In every inſtance, however, of venereal taint in yaws, or crab yaws, I found it ineffectual, prior to the uſe of mercurials.

I ſome time ago mentioned to you a few ſucceſsful experiments made with a view to determine its antefebrile qualities, by adminiſtering it in the ſame ſcope and indication as the Peruvian bark. Repeated trials have, however, ſince that period convinced me it is much more inactive than that celebrated febrifuge, unleſs its virtues are ſharpened by the addition of ſome neutral ſalt or alcaline; then it really exhibits virtues little inferior to the China-China, and is unattended with the inconveniencies uſually experienced from the latter. This I account for by ſuppoſing its reſinous parts to be rendered more readily miſcible with the aqueous juices by the addition of the ſalt.

Another moſt ſingular quality the Zanthoxylon poſſeſſes in an eminent degree, which, I preſume,

I preſume, you are unacquainted with, and to the knowledge of which I was accidentally led. A ſhort account of the diſcovery will beſt explain it, and, at the ſame time, indirectly argues this ſalutary plant not to be a native of Jamaica.

Mr. Croſdale purchaſed two negro wenches in the beginning of the preſent year; the younger of whom, at different times ſince, has been afflicted with a dry belly-ache, or colica pictonum. About two months ago ſhe was ſeized with it in ſo dreadful a degree, that every effort to remove the ſpaſmodic conſtriction of the bowels, and procure ſome motions, proved ineffectual. To no purpoſe were emollient fomentations, anodyne, or cathartic glyſters, mild and draſtic purges, caſtor oil, and ultimately, bliſters to the abdomen, applied. That horrid ſymptom, a *vomiting of the excrements*, commenced, and baniſhed every ray of hope. In this ſituation ſhe deſired to have her ſiſter with her, who, on ſeeing her deplorable condition, ſignified a wiſh of giving a noſtrum communicated to her by their mother, and employed to cure herſelf, on a ſimilar occaſion, in Africa. I readily complied with the requeſt. In the

 courſe

courſe of two hours, ſhe returned from the woods with the root and flowers of ſome plant, pounded together in a calabaſh. Two ſpoonfuls of the expreſſed juice of this ſhe gave her ſiſter twice, at an interval of two hours each. The firſt effect of this was a tranquil profound ſleep of twelve hours duration, during which the pulſe and breathing gradually returned to the natural ſtate; after this, all ſenſe of pain, and every bad ſymptom, diſappeared, and no other inconvenience did ſhe experience, ſave debility and ſlight ſoreneſs, from the paſſing of the purgative medicine, which came away eſpecially during the courſe of the following day. The ſiſter was obſerved to boil the ingredients (after expreſſing the juice) in a large quantity of water, and give it on the following day as common drink. No reward or menace could induce her to diſcover the plants until ſtratagem brought it to light. We induced another negro to diſſemble a ſimilar complaint, and prevailed with the wench to ſeek for, and prepare the ſame cure; in complying with this requeſt, we had her ſo narrowly watched, as to diſcover the ſecret to be the freſh root of the Zanthoxylon, in its infant ſtate, intermixed

termixed with the ſaffron coloured flower of the wild ſage; which laſt, I have ſince found, to contribute nothing to its virtues. Having procured ſome of the ſappy and ſmalleſt roots of the young trees, and expreſſed the juice, I began the experiment of its qualities on myſelf at tea-ſpoonful doſes. From the firſt of theſe, I found no other effects than an unuſual flow of ſpirits. By continuing the doſe, drowſineſs, nauſea, head-ache, and, at length, ſleep, enſued; from which I however awoke next morning perfectly refreſhed, and had three copious eaſy motions. I preſerved ſome of the juice with rum, and ſome with ſyrup. Theſe preparations, as well as the juice, I have frequently ſince that period adminiſtered in complaints of the bowels (ſo frequent among the African race and their progeny) with every wiſhed-for ſucceſs. On the eſtate of Mrs. O'Bryan, an old man of 80 years was lately ſeized with convulſive fits every hour, in every character ſimilar to epilepſy, which continued, without intermiſſion, twenty-four hours. To him, on being ſent for, I immediately gave a wine-glaſsful of the juice preſerved in rum; the fit which ſucceeded the firſt glaſs was unattended with

ſtrong convulſions, and the ſecond was little elſe than a comatoſe ſtate; after which, a ſound ſleep of ten hours removed every appearance of diſorder except laſſitude.

This laſt mentioned antiſpaſmodic virtue the *Zanthoxylon* loſes by being dried and powdered, its narcotic qualities being diſſipated with the moiſture of the plant.

Theſe are the chief remarks my opportunities and leiſure have hitherto enabled me to make on the Zanthoxylon. I ſhall continue to give it every candid and fair trial, and, from time to time, will ſend you the reſults of my experiments. Some other vegetables have fallen under my inſpection from negro information, and I have really found much ſatisfaction from their uſe. My botanic information is too limited to attempt their deſcription; yet, as ſoon as I learn it, you ſhall alſo know them and their virtues.

I remain,

Dear Sir,

Your obliged humble ſervant,

THOMAS HENEY.

ARTICLE

ARTICLE VI.

To THOMPSON FOSTER, Efq. F.M.S.

SURGEON TO GUY'S HOSPITAL.

Read MARCH 23, 1795.

Cley, next the Sea,
Feb. 16, 1795.

DEAR SIR,

AT your requeft I have annexed a ftatement of my unfortunate friend's cafe, which I have endeavoured to make as accurate as poffible. If, in your opinion, its publication will any way contribute to the benefit of fociety, I fhall certainly not withhold my confent, but leave you in that refpect to act as you may think proper.

I am, dear Sir,

Your obliged, and faithful fervant,

THOMAS ERRATT.

 Mr.

Mr. Thomas D——, of G——, in the county of Norfolk, whofe fufferings ended in death, on the 3d of November 1794, at the age of twenty-feven, had, from childhood, experienced fymptoms which ufually accompany a ftone in the bladder. Thefe gradually increafed in violence, and, at length, became fo intolerable as to induce him to apply for advice to an eminent furgeon, whofe practice in ftone cafes was very confiderable. He was under this gentleman's care for fome time, and was repeatedly examined; the refult of which was almoft a conviction that there was no ftone in the bladder. He was put upon a courfe of mercurials and cicuta; ufed bougies, and, I believe, other medicines, without any benefit. Upon taking leave, he was requefted to try the effect of the aërated alkaline water. With this he complied, and, in the courfe of a few weeks, derived evident advantage from its ufe. By degrees all his painful fymptoms left him, the bladder fuffered its natural accumulation of urine to take place without any painful fenfation, and difcharged its contents free from difficulty or interruption. In this happy ftate he continued near four years, taking occafionally

occaſionally the ſaturated water; and, in purſuit of his favourite field amuſements of hunting and ſhooting, he often underwent the greateſt bodily fatigue without inconvenience. It was not until the harveſt of 1793 that the ſymptoms recommenced, on his becoming very wet while in a ſweat. From that period to the beginning of the February following, he was under the care of a medical friend of mine, from whom he experienced ſome relief. It was at this time my firſt attendance on him commenced, and opportunities occurred to me of marking particularly the ſymptoms and progreſs of the diſeaſe. His ſtrength was much reduced, appetite extremely bad, body coſtive; he was alſo troubled with teneſmus, and an almoſt conſtant inclination to make water, which he paſſed in ſmall quantities with intolerable pain. His urine was thick when made, very fetid, and depoſited a ſediment of a purulent appearance. The four years perfect freedom from any of theſe ſymptoms, or any inconvenience ariſing from the ſtrongeſt exerciſe; the probable concluſion that might be drawn from the examinations of a ſurgeon much in the habit of ſounding patients for the ſtone;

 and

and the ſubſequent intervals of eaſe, returning ſtrength, and perfection of the ordinary functions of the bladder, were, in my opinion, ſtrong circumſtances againſt the preſence either of a ſtone, cancer, or of any organic affection. With theſe impreſſions on my mind, the preſent caſe ſtruck me as an inſtance of a local morbid irritability; and, recollecting Mr. Cline's recommending the tinct. ferri muriati, in partial ſpaſm, I gave the preference to this tonic, and exhibited it in doſes of ten drops, three times a day, enjoining its increaſe as the ſtomach would bear it: to which I added a draught containing a drachm of ſp. æther. vitriol. five and twenty drops of tinct. op. forty of tinct. caſtor. with pennyroyal water, every night at bedtime; and ſome laxative pills, with pilul. ex aloe cum myrrh.; containing alſo pil. e gummi camph. et caſtor, before each doſe of the drops. The apparent effects of this plan were, conſiderably better nights, a rapid return of appetite and ſtrength, a total ceſſation of pain, regular ſtate of the bowels, a retention of the urine in its natural quantity, without any obſtruction in diſcharging it. This flattering change continued to increaſe

creafe our hopes of a perfect recovery for three weeks, during which period, notwithftanding the abfence of the fymptoms, the medicines were regularly continued. We found ourfelves, however, too fanguine, for now a degree of uneafinefs about the region of the kidnies, and in the bladder, attended with a fenfe of heat in thefe parts, came on; the appetite gradually fell off; fome catarrhal affections (which we afterwards obferved generally preceded the violence of the paroxyfms) were likewife prefent, and the whole train of fymptoms already mentioned followed. In fo critical a fituation I did not choofe to truft entirely to my own judgment, and a phyfician was called in. He prefcribed fuch a plan of treatment as was likely to leffen the morbid irritability of the bladder, procure eafe, and fupport the powers of the conftitution, which, from the feverity and repetition of the attacks, were evidently declining. At the end of about a month the violence of the fymptoms began again to abate, the appetite returned, and he rapidly recovered. Scarcely, however, had a fortnight elapfed, before a frefh attack took place; which was longer in duration, and

accompanied

accompanied by greater debility, loſs of appetite, ſtrength, and fleſh, than either of the preceding. The ſurgeon who was originally conſulted, and had ſearched him for the ſtone, was now ſent for. He concurred in the opinion we had formed; but, having upon an examination felt through the integuments a hard body juſt riſing above the pubes, it was concluded that a thickening of the coats of the bladder had taken place in conſequence of inflammation. The plan we were purſuing was therefore changed, and emollient and cooling medicines were ſubſtituted. Theſe were adminiſtered two or three days; the ſtrength ſunk very faſt, and the pain, if poſſible, grew more urgent, ſo as to induce us again to have recourſe to the former medicines. He ſoon got better, and enjoyed a longer interval than hitherto from his ſymptoms; but the abſence of theſe was not ſo complete, for during this time (which was about three months) he felt occaſionally ſome pain, and his urine was never perfectly free from a ſediment, in which there was two or three times the appearance of grumous blood. His appetite, however, was remarkably good, he grew fat, and was ſo well,

 that

that he performed a journey of thirty miles in an open chaiſe, to pay a viſit to his brother, at whoſe houſe he ſtayed a month or five weeks, and returned to G—— by the ſame conveyance, without ſuffering any pain or inconvenience.

From this period he had two ſevere paroxyſms previouſly to his diſſolution; the laſt of which took place in the beginning of October. The ſymptoms were much the ſame as on former attacks, excepting only that the powers of the conſtitution daily became more exhauſted, and, at length, after a very ſevere ſtruggle, ſunk under the conflict. On this laſt attack another diſtinguiſhed phyſician was conſulted; but, as all that was done was done under an erroneous notion of the true cauſe of the diſeaſe, it would be ſuperfluous to give a particular detail of the treatment. I ought not, however, to omit mentioning one circumſtance; that, during this phyſician's viſit, the bottom of the body, where the hardneſs ſpoken of before was diſcovered, was carefully examined, but nothing of the kind could now be felt. I recollect on the firſt examination he was lying on the ſofa in an horizontal poſition, he now ſtood

in an erect one. Afterwards (the day before he died) it was again diſtinctly felt through the integuments, as he lay in bed.

APPEARANCES ON DISSECTION.

The left kidney adhered to the ſpleen by its external membranous covering, which was very much thickened, and diſeaſed. The whole ſubſtance of the kidney bore marks of diſeaſe; it was conſiderably enlarged, and filled with ſmall circumſcribed abſceſſes or veſiculæ containing thick pus, ſome of which were of the ſize of a nutmeg, and had orifices of communication with the infundibula and pelvis. Theſe latter were dilated to twice their natural capacity, and the ureter was ſo large as to admit the end of my fore-finger.

The appearances in the right kidney were ſimilar to thoſe already deſcribed in the left.

The fundus of the bladder was found projecting about half an inch beyond the oſſa pubis, tightly embracing a hard body.

On cutting into the cavity of the bladder, this hard body proved to be an oval compact ſtone, irregularly covered with a ſoft chalky ſubſtance.

Its

Its weight was nearly two ounces and three quarters. Near that extremity of the ſtone which was immediately in contact with the fundus of the bladder, there was a ſmall pointed irregularity, or projection, about the ſize of a pin's head, which correſponded with an impreſſion, or rather ulceration, in this part of the bladder juſt large enough to receive it. Around this ſmall ulceration there was a circle about the circumference of a ſhilling, having the appearance of recent inflammation.

The coats of the bladder were conſiderably thickened, and that portion which immediately embraced the ſtone forming the fundus, was ſo indurated and diſeaſed, as to be, I ſhould imagine, incapable of dilatation.

That ſpace towards the neck of the bladder unoccupied by the ſtone, (the coats being here in a much leſs diſeaſed, and more dilatable, ſtate) contained an ounce or two of urine, loaded with pus, which ſeemed to iſſue from the mouths of the ureters.

ARTICLE

ARTICLE VII.

On the Application of Spirit of Wine to Burns, Scalds, &c.

By THOMAS PARKINSON, Surgeon, at Leicester.

Read February 23, 1795.

To the MEDICAL SOCIETY of London.

Having often had occaſion to be diſſatiſfied with the application of oily ſubſtances, or even the more powerful applications of ſaturnine preparations, to parts injured by burning or ſcalding, I am deſirous, by your means, of laying before the public a different mode of treatment, which has proved more ſucceſsful than that very generally employed; and as it has not only *novelty*, but *facts*, to recommend it, I truſt the proceſs I employ will be thought worthy of your attention. Whether I am right in my explanation of the *modus*

modus agendi, or not, is not of much confequence; but at prefent I am difpofed to attribute the good effects, which the application of fpirit of wine produces, principally to the degree of cold *generated by evaporation*; and, poffibly, this may be ftill further improved by employing vitriolic æther inftead of fpirit of wine.—The procefs confifts in covering the parts aggrieved with bladder of the greateft tenuity, which is to be kept conftantly moiftened, for fome time, (perhaps twenty-four or thirty-fix hours) with alcohol or highly rectified fpirit of wine; I find this very generally of fufficient efficacy to prevent, or to *deftroy inflammation*; frequently to preferve much fkin which has been injured; and, ultimately, to render little more than a mild cerate of wax and oil neceffary to accomplifh the cure.—I truft this will be fairly illuftrated by the following cafes.

CASE I.

A young woman, in perfect health, about 21 years of age, fell down as fhe was carrying a pail full of hot wort, which was fpilt over her face, neck, and bofom. I was at that

that moment from home; but, upon my arrival, I found theſe parts, as well as part of the abdomen, much inflamed, and in many places bliſters had ariſen; it was, moreover, accompanied by a painful ſenſation at the ſcrobiculus cordis, with ſickneſs. In my abſence, which was unavoidably near two hours, between the young woman's receiving the injury and my ſeeing her, a liniment compoſed of ol. lini ſine igne extract. and extract. ſaturni had been applied; this was immediately changed for ſpirit of wine, the injured parts being firſt covered with thin bladders, which, in order to adapt them with more accuracy to the parts, were firſt dipped into warm water; to the whole injured ſurfaces was then applied alcohol unremittingly, with a ſponge, ſo as to produce a conſtant evaporation. I was highly gratified to find, that the efficacy of this remedy was manifeſt ſhortly after it had been employed, for the pain ſoon abated, the ſickneſs ceaſed, and the inflammation began to ſubſide: ſhe was eaſy whilſt the ſpirit of wine was conſtantly and properly applied; but when the operator ſlackened in his attention, the pain as certainly returned, but would immediately ceaſe

upon

upon the re-application of the ſpirit.—This proceſs was continued about twenty-four hours, when the inflammation was wholly removed; the excoriated parts, which were much leſs than might have been expected under ſuch an injury, were dreſſed with common white cerate, under which they ſpeedily healed.—Somewhat more than a pint of ſpirit was conſumed in this caſe, during the twenty-four hours it was employed.

CASE II.

A young man, by trade a blackſmith, having occaſion to go with a lighted candle to a cupboard where gunpowder was placed, incautiouſly ſet fire to this combuſtible ſubſtance; a conſiderable exploſion took place, which inſtantly drove the window of the room out of its frame, whilſt he was ſcorched in a terrible manner. Having his coat off, his ſhirt immediately took fire, and contributed, by its adheſion, to aggravate the injury very much; his face, neck, and hands, ſuffered greatly; his eye-brows, eye-laſhes, and the hair upon his head were totally deſtroyed; whilſt the lobes of the ears and ad-

 jacent

jacent parts were burned to a cinder. The accident happened at the diſtance of more than two miles from Leiceſter; but an aſſiſtant of mine, as I was at that moment engaged in a caſe of midwifery, haſtened to the aid of the poor man, carrying with him a quart of the ſpirit of wine with a large pot of common white cerate; and he was ſoon after followed by myſelf.—I found, in ſome parts, the ſloughs were of conſiderable depth, and, upon the whole, ſuch was the degree and extent of the injury, as to render the human form *a miſerable ſpectacle* indeed.

The parts injured by the accident were firſt of all waſhed with warm milk and water; they were then covered with linen, on which was ſpread ſome of the cerate; and, on the outſide of this application, ſpirit of wine was continually applied, ſo as to procure a conſtant evaporation for twenty-four hours. This ſoon produced eaſe, with conſiderable abatement of inflammation. The remedy, however, was perſiſted in, until the evening of the third day; for it was not before that time that perfect eaſe was obtained; during which period, two quarts of ſpirit had been conſumed. Thoſe ſloughs which appeared to be deep,

deep, were then covered with ſoft digeſtive; a cooling purge was given him, and wax and oil completed the cure. The injury appeared at firſt to be of ſuch magnitude, that I was apprehenſive, much deformity, or defacement, muſt have been the unavoidable conſequence of it; but, much to my ſatisfaction, the parts healed without any further inconvenience to my patient, than that of leaving ſome well formed cicatrices behind them.

CASE III.

Of Ophthalmia.

Mr. W—— C——, a healthy young man, applied to me for relief, under violent inflammation of the eye, attended with pain, heat, and ſwelling. A purge, a julep with nitre, and a ſaturnine lotion, were directed for him, and afterwards a bliſter was applied to his back; his purgative was alſo repeated. No advantage having been obtained by theſe means, I was determined to try what ſpirit of wine, when evaporating, would do for him, under this troubleſome degree of inflamma-

tion. The eyelids were therefore covered with a thin bladder, and ſpirit of wine was kept conſtantly applied to the bladder, with a ſponge, for ſome hours. He almoſt immediately became eaſier, the inflammation began to abate, and after two ounces of the ſpirit had been conſumed, he had no further occaſion for that or any other remedy.

CASE IV.

A young man, of the age of 25 years, in going through a hedge with his gun, by accident diſcharged it, and the priming catched his eyelid and eyebrow, burning them a good deal; which, of courſe, became painful, inflamed, and the eye impatient of light. Being at the diſtance of two miles from home, he was obliged to walk ſo far, ere any application could be made to the injured parts. Spirit of wine was immediately applied, in the manner mentioned in the preceding caſes, by the medium of a moiſtened bladder, in a ſtate of evaporation; and, in the courſe of twenty-four hours, all injury, excepting the loſs of the eyelaſh and eyebrow, was entirely removed. I confeſs that I am not diſpoſed

to

to believe this diſeaſe would have given way ſo ſpeedily, or ſo effectually, to any of thoſe means which are uſually employed, and which *time* has ſtamped ſome value upon, as was evident from cold, created by *evaporation*, and perſiſted in.

CASE V.

A ſervant boy had his leg very much ſcalded by boiling water poured upon it by accident. The part was immediately much inflamed, and bliſters appeared upon its ſurface. A ſaturnine remedy was applied to it, and the next morning I ſaw him; when the inflammation was conſiderably increaſed, accompanied with pain. The injured part was immediately covered with a moiſtened bladder, and ſpirit of wine applied to the ſurface of it, in the manner I have recommended, for half an hour only. This proved a ſufficient time to procure eaſe, to remove inflammation, and to make way for the application of wax and oil, under which, without any further trouble, the injured part healed.

I could add many other inſtances of the admirable effects of ſpirit of wine, as an ex-

ternal remedy, under a ſtate of evaporation, in inflamed eyes, and injuries incurred by burning and ſcalding ſubſtances applied to the human body; but theſe, I truſt, will be thought, by any candid perſon, of ſufficient import to engage his attention.

I am,

Gentlemen,

Your obedient ſervant,

Leiceſter,
July 2, 1794.

THOMAS PARKINSON.

ARTICLE VIII.

An Account of the Lithontriptic Power obſerved in the Muriatic Acid.

Ad utilitatem vitæ omnia conſilia factaque noſtra dirigenda ſunt.

TACIT.

By Mr. COPLAND.

Read May 4, 1795.

It is well known that, of late years, different active articles of the Materia Medica, whoſe medical virtues were before very ſuperficially aſcertained, have been, by the attentive obſervation of different practitioners, eſtabliſhed as medicines of real efficacy. And it is alſo equally well underſtood, that the medicinal effects of various articles yet remain to be determined by further obſervation; amongſt which, the muriatic acid may, from the following hiſtory perhaps, appear to claim our immediate regard.

 In

In the ſummer of the year 1789, in the courſe of my attendance on a patient attacked with a rheumatic affection of the loins, I learned from him, that he had formerly been ſeverely afflicted with pain in his loins from gravel, and that after making uſe of different means for ſome time, which only afforded him temporary eaſe, he at length procured a quack medicine, vended in this neighbourhood, from which he received complete relief, a large quantity of ſand and gravel being diſcharged with his urine during its uſe. He likewiſe aſſured me that ſome friends, to whom he had recommended the ſame medicine in ſituations ſimilar to what he himſelf had experienced, were equally fortunate in obtaining by it a diſcharge of urinary calculus.

Having no reaſon to diſpute this perſon's aſſertions, and recollecting that medicines of efficacy had heretofore been found in the hands of people little acquainted with medical ſcience, I became anxious to ſee this noſtrum, and I accordingly procured ſome of it through the medium of my patient.

At firſt ſight I ſuſpected it was muriatic acid, and I was afterwards confirmed in that ſuſpicion,

ſuſpicion, by the white fumes which aroſe from it when expoſed to a moderate degree of heat. On a compariſon with muriatic acid in my poſſeſſion, it differed from that only in colour, being ſomewhat lighter; the ſtrength of each in dilution with water, and their attraction to kali, being ſimilar.

Having been thus led to ſuppoſe that the muriatic acid might be employed as a ſolvent in calculous complaints, I took the opportunities the following caſes afforded, of aſcertaining its lithontriptic power.

CASE I.

March 6, 1790, I was conſulted by William Berry, of Grimſthorpe Park, aged 62, who had long been ſubject to gravel-complaints, and who then was diſtreſſed with a frequent deſire to make water, voiding it in ſmall quantities with pain, accompanied alſo with an obtuſe pain in the region of the bladder.—Conſidering theſe as ſymptoms of ſtone in the bladder, I directed him to take ten drops of the muriatic acid in a cup of water three times a day, and to increaſe

creaſe the quantity gradually daily according to its effects.

In a week or ten days after he returned, and informed me, that when he had taken his medicine to the extent of twenty-three drops, he began to diſcharge ſand and gravel with his urine; a ſpecimen of which he brought in a phial with him, and which was further confirmed by an evacuation before he took leave. Having caught a cold ſoon after this, he attributed that circumſtance to the medicine, and gave it up; but he found it neceſſary afterwards to recur to it, and has ſince continued its uſe occaſionally.

CASE II.

May 24, 1791, I was ſent for to John Field, of Colſterworth, aged 80, who had been many years troubled with gravel, from which he occaſionally got relieved; but the complaint had now become unuſually ſerious, the ſymptoms giving reaſon to ſuſpect a ſtone in the bladder.—He was accordingly ordered fifteen drops of the muriatic acid in water three times a day, and to increaſe the doſe

dofe gradually, as in the former cafe, till it produced fome effect.

When he had proceeded to thirty drops, a coarfe red fand was depofited in confiderable quantity, at the bottom of the veffel containing his urine, which I took care to be fatiffied of myfelf, and which was continued till a large quantity was difcharged. He had then, in great meafure, got rid of his pain, and was apparently much better; but the power of expelling his urine gradually declining, ended, on the 12th of June following, in a total fuppreffion.

Till the 20th of the fame month, I daily drew off his urine with the catheter, when a daily attendance, on account of the diftance, becoming inconvenient and uncertain, I prevailed upon an intelligent neighbour to undertake the introduction of the catheter, which was foon accomplifhed with addrefs, and which was employed more or lefs till his death, which took place fome months after, apparently the mere effect of age.

The acid was continued fome time after the fuppreffion had taken place, but no more fand was difcharged; yet, as he afterwards lived in tolerable eafe, and as, at times, he

 voided

voided his urine in quantities occaſionally ſufficient to ſuperſede the uſe of the catheter, I concluded that all calculous matter was diſcharged, and that the ſuppreſſion of urine was to be attributed to a loſs of tone in the bladder, the conſequence of his years.

CASE III.

April 21, 1792, I was called to Sarah Richardſon, of Holywell, aged 60, who was much alarmed by a diſcharge of bloody urine, which ſhe voided with difficulty and pain; complaining at the ſame time of a pain in the region of the bladder, which ſhe often expreſſed by applying her hand to the lower part of her body, and leaning forward as if to obtain eaſe.

Conſidering this as a ſtone caſe, the blood moſt probably being diſcharged from a veſſel in the urinary organs, ruptured by the attrition of a rough-ſurfaced, or ſharp-pointed ſtone, I employed the muriatic acid in thirty drop-doſes in water three times a day, by which a diſcharge of ſand was daily procured, with a relief from her bloody urine and painful affections.

CASE IV.

Auguſt 26, 1792, I prevailed upon a friend of mine, a reſpectable farmer and grazier in this neighbourhood, aged about 50, who had for ſome years been troubled with gravel, to make uſe of the muriatic acid.

Having a dread of medicines of ſeeming activity, he would only conſent to take twenty drops in a large cup of a decoction of pareira brava, two or three times a day; by which a ſmall quantity of red ſand was daily evacuated, and his urine was diſcharged with more freedom. At this time he conſulted a chemical acquaintance upon the nature of the medicine, and, after his report, declined to take it any longer, alledging that he found equal relief from mucilaginous and nitrous drinks.

Being diſappointed with the unſatisfactory trial of the medicine in this caſe, and being convinced, that, with ſome people, to know a medicine is to leſſen its value in their eſtimation, I added extract of logwood to muriatic acid, in the proportion of one grain of the former to four ounces of the latter, by which

which a tinge was obtained, ſufficient to conceal the reality of the medicine from a common obſerver.

Auguſt 5, 1793, this patient again applied to me for the ſame complaint, for which I directed him to take twenty drops of the coloured muriatic acid, in a ſufficient quantity of cold water, twice in the early part of the day, and ten drops in a half pint glaſs of rum and water ſweetened with honey, as often after dinner and in the evening as he might think proper.

By purſuing this plan he got rid of his complaint, but whether ſand was evacuated or not, during this ſecond employment of the medicine, I cannot ſay with certainty, not having attended him upon this occaſion, and he being principally intent upon a free diſcharge of urine. I am, however, inclined to think that it was, as I have lately been informed by him, that for theſe laſt twelve months his complaint, though a family one, hath given him very little diſturbance.

Although I have hitherto choſen to obſerve the effects of the muriatic acid in moderate doſes, yet, in the directions given by the empiric, from ſixty to an hundred drops are ordered

ordered to be taken in a gill of common drink three times a day, and I have been informed with an almoſt immediate effect: but ſuch large doſes might perhaps be more commodiouſly exhibited, by being blended with mucilage.

The evidence deducible from the preceding caſes, appears to corroborate the teſtimony of my patient in favour of the lithontriptic power of the muriatic acid; and as no ſuch power is even hinted at by Dr. Cullen, in the account of this article, in his late elaborate work on the Materia Medica, I am apprehenſive that the ſame is little known.

My circle of practice affording few opportunities of treating calculous complaints, I am therefore deſirous that this account of the ſolvent power of the muriatic acid ſhould be generally known to profeſſional men; with the hope that other practitioners, and particularly gentlemen who have the charge of medical charities, will endeavour to aſcertain how far this acid may be conſidered as a lithontriptic.

I muſt beg leave to notice an inaccuracy, which took place in my paper of the 8th of February,

February, on that ſubject *. I have there ſaid from memory, that from ſixty to an hundred drops of the acid are directed by the empiric to be taken three times a day; but, on a re-peruſal of his paper, I find it adviſed to the extent of two hundred drops at the ſame intervals.

* The muriatic acid as a lithontriptic, communicated about two years ago.

ARTICLE

ARTICLE IX.

Experiments on the external Uſe of Tartariſed Antimony.

[IN A LETTER TO J. C. LETTSOM, M. D. &c.]

BY BENJAMIN HUTCHINSON, MEMBER of the CORPORATION of SURGEONS, LONDON.

Read OCTOBER 12, 1795.

SIR, *Southwell, Auguſt* 16, 1795.

HAVING read with ſome degree of ſurpriſe the very different and irreconcilable teſtimonies which appear in the ſecond and the fourth volumes of the Memoirs of the Medical Society, on the external abſorption of emetic tartar, I determined to pay attention to the ſubject, and having reaſon to believe that I have not been altogether unſucceſsful in diſcovering the truth, I wiſh, through your means, to ſubmit the reſult of my inquiries to the Medical Society.

Experimentaliſts in every ſcience have a juſt claim to encouragement, and many valuable acquiſitions might ſink into oblivion, and be for ever loſt to the world, if the modeſt aſſertions of genius and merit are ſuffered to be borne down and deemed fallacious when contradicted with an *appearance only* of ſucceſs. Encouragement is the powerful ſtimulus to exertion, and when the only incentive to experiment is the diſcovery of truth or the diſſipation of error, the moſt rigorous inquiries may be proſecuted with the true ſpirit both of zeal and candour.—Anxious to aſcertain the fact, *whether* or *no* emetic tartar can be exernally abſorbed into the ſyſtem, and whether any material effects are produced from ſuch abſorption, I repeated the experiments which are related by Mr. Sherwin, in the ſecond volume of the Memoirs of the Medical Society of London, on a young lady and gentleman, by rubbing into the palms of the hands at bed-time, five grains of emetic tartar, with a few drops of water. It produced no ſenſible effect on myſelf till towards the morning, when a gentle diaphoreſis was diffuſed over my whole body: the gentleman did not perceive any alteration, but the lady had

had evidently a SLIGHT NAUSEA, and a very gentle diaphoresis. We repeated the experiment several successive nights, and we all perceived a *glow* on the body, and the lady remarked that she had never *slept* so well in her life as when under the influence of the emetic tartar. We now varied the mode of introducing the medicine, by dissolving, or rather mixing, one drachm of it in two ounces of water. On rubbing into the palms of my hands eighty drops of this saturated solution, no very sensible effect was produced on myself, but the lady and gentleman both slightly perspired, and both experienced an unusual propensity to sleep; an effect which it does not appear that either Mr. Sherwin, or any of the other experimentalists, have mentioned. I increased the quantity the succeeding night, and doubt not but I rubbed into the palms of my hands the quantity of fifteen or twenty grains; in consequence of which, I awoke in the night with an increased full pulse, and great heat, succeeded by profuse perspiration; afterwards there came on a great and invincible disposition to sleep, an evident increase in the secretion of urine, but no material change in the intestinal sys-

tem. Theſe experiments were repeated ſeveral ſucceſſive nights, when, being convinced that the emetic tartar was taken into the ſyſtem, and conceiving very flattering hopes from this mode of introduction in the treatment of diſeaſes, I began by making the experiment on ſome patients then under my care.—The firſt caſe which I have to relate is that of *Mary Hill*, a farmer's daughter of Halam, in this neighbourhood, ſeventeen years of age: ſhe had been troubled with a tertian ague four or five months, which had reſiſted the powers of bark, of different febrifuges, and of the arſenical ſolution which I had been adminiſtering ſome length of time. I was not without hope that the deſired effect might be produced by the habit being well ſaturated with emetic tartar, and had the more confidence in this expectation, from the concurring opinion of a medical friend, whoſe ſentiments I ſhall always regard with the greateſt deference and reſpect. This patient began by rubbing into her hands and feet fifteen grains of emetic tartar night and morning. The experiment was commenced on the evening preceding the expected return of the paroxyſm, and, upon inquiring how ſhe felt the

the next morning, ſhe complained that ſhe had burned and ſweated exceſſively, and that the medicine had given her ſo unuſual a ſenſation, that ſhe requeſted ſhe might not be obliged to perſevere; but, on pointing out the neceſſity of perſeverance, ſhe repeated the frictions according to my directions, and the ſucceeding paroxyſms, in ſome degree, diminiſhed. After uſing it three days, ſhe again expreſſed a wiſh to deſiſt, as ſhe complained that it teaſed her with a *conſtant ſickneſs*; however, with much perſuaſion, ſhe perſevered for ten days, when her ague totally left her. She could with difficulty walk acroſs the room for a month after her complaint was removed, partly from exceſſive debility, but more particularly from the ſoreneſs which the friction had occaſioned in her feet. I now gave her the bark, which ſoon reſtored her to her former health. The next caſe is that of a young gentleman who, for ſome years back, had been troubled with a violent rheumatic pain in his right arm extending to his ſhoulder; he had tried the whole claſs of anti-rheumatics, as guaiacum, Dr. James's powder, analeptic pills, mercury, &c. &c. without any good effect: I

therefore resolved to give the emetic tartar a fair trial, and prescribed a scruple to be rubbed into the arm every night, rather below the part affected, in the course of the absorbents: from the first friction he experienced considerable heat, *stupors*, a quickened pulse, and profuse diaphoresis. The third friction raised a few small pustules, in consequence of which it was necessary to omit its use a few days, when again persevering, in the space of ten days his pain entirely left him. The concurring testimony of my experiments seems by no means requisite to establish the simple fact, that emetic tartar can be received into the system by the cutaneous absorbents: the only doubt which can possibly exist, is, whether or no its action and effects from external introduction, are equal or superior to its action and effects when the system receives it by the stomach?—I believe no man can doubt the reception of mercury into the habit by external absorption, notwithstanding it may be often and repeatedly applied without producing any sensible effect, or, perhaps, producing no other effect than the same kind of troublesome pustules which so frequently follow the external use of emetic tartar: why, therefore,

fore, need we disbelieve the same fact with respect to the antimonial? We are not to suppose, because it may fail to make a person in health either vomit or sweat, that it may not be capable of relieving a patient afflicted with disease, of some disagreeable symptom, on which the same medicine, in a diminished dose, administered by the stomach, may have no effect. Indeed it is impossible that so small a quantity as it is in our power to take in by the stomach, can produce any good effect in such diseases, as may hereafter be found to require the blood vessels to be well saturated with emetic tartar: the sciatica and deep-seated rheumatism are probably diseases of this nature, and there may be many others. I am happy, therefore, in adding my testimony upon this occasion to that of the ingenious Dr. Bradley, in the fourth volume of the Medical Memoirs, wherein he says, that "in one of his patients the itching and eruption were preceded by a general restlessness, and two or three times, by a slight degree of nausea." It is certain that no nausea could be produced unless by the absorption of the antimonial, as we must suppose the influence of the imagination could not bring on nausea,

 the

the patient being unacquainted with the nature of the medicine.—But they who make experiments with emetic tartar by external abſorption, muſt not expect its action on the ſyſtem to be as evident as that of mercury: they muſt not expect to diſcover its action on the ſalivary glands, nor can it be expected with certainty even to produce perſpiration; but it ſeems evidently to have a ſpecific action on the blood veſſels, and it poſſeſſes alſo a ſpecific influence over the ſkin, and is known to be particularly uſeful in ſome cutaneous eruptions. I have frequently ſeen it applied ſuccesſfully in the cure of the itch, but the inconvenience in this diſeaſe of teaſing the patient with an almoſt conſtant nauſea, renders it a diſagreeable remedy: this circumſtance has frequently laid me under the neceſſity of omitting the medicine when it had nearly completed a cure. I think it neceſſary to mention, that when I made the experiments with emetic tartar, the weather was unuſually cold, being the latter part of JUNE, and the antimonial was from Apothecaries Hall. If theſe remarks afford the leaſt ſatisfaction to the members of the Medical Society, they will contribute no ſmall degree of pleaſure to myſelf.—I am, Sir, &c.

ARTICLE

ARTICLE X.

Some Account of a Species of Phthiſis Pulmonalis, peculiar to Perſons employed in pointing Needles in the Needle Manufacture.

By JAMES JOHNSTONE, M. D. Worcester, C. M. S.

Read February 1, 1796.

If the miſchiefs ariſing from a part of the proceſs of an uſeful manufacture may be alleviated by exciting the attention of the humane and the intelligent to them, I ſhall have my *only wiſh* in ſending the following obſervations to the Medical Society; and, in that wiſh, I am certain of the unanimity of my colleagues.

The needle manufactory is carried on to conſiderable extent, in a line of this country extending from Bromſgrove to Alceſter, eſpecially at Red-ditch, which is nearly in the center of that line.

Perſons

Perſons employed in pointing the needles by dry grinding them, are conſtantly very ſoon affected with pulmonary complaints, ſuch as cough, purulent or bloody expectoration; and being ſo affected, they gradually waſte in fleſh and ſtrength, and hardly ever attain the age of forty years.

As the buſineſs is known to be conſtantly attended with ſuch fatal effects, the manufacturers find it not very eaſy to engage perſons to work at it; and they who are engaged, are ſo well paid as to get money enough to miſpend in drink; being, for the moſt part, in this reſpect, perſons of very irregular manners.

Parents in binding their children to the needle trade, for the moſt part, condition, that they ſhall not be employed in this pernicious branch of the manufactory, the grinding or pointing the needles.

Beſides their habitual exceſs in drinking, the perſons ſo employed chew much tobacco, in order, perhaps, to ſolicit a ſecretion of ſaliva, which they throw out plentifully to wet their hands, and the needles overheated in attrition with the grindſtone.

Surely it would not be difficult to have a

veſſel

veſſel filled with cold water near, occaſionally to dip therein the hand, and cool the metal, and thereby to avoid this perpetual waſte of a fluid, by the loſs of which digeſtion is impaired and ſtrength ſunk. Nor would it be difficult to contrive a crape hood or gauze helmet, to receive the head and reſt on the ſhoulders, which would prevent a great deal of the metalline and ſtony particles of duſt, which fly off in the operation of dry grinding the needles, from entering the ramifications of the arteria trachea, and cells of the lungs, with the air in the action of inſpiration.

The cauſe of the pulmonary phthiſis peculiar to the people who follow this buſineſs, is, undoubtedly, the continual irritation of the lungs by the duſt of ſmall particles of iron and ſtone, and their gradual congeſtion into ſmall concretions on the air cells of the lungs.

They unite there into ſmall balls by means of the mucus which is ſecreted in order to defend the tender ſubſtances of the lungs.

By the continual irritation of the tender and irritable ſurface of the lungs the ſuppurative inflammation is gradually produced, which at length ends in ulceration.

In

In the earlier ſtages of the diſeaſe, the cough which is produced, brings up only ſlime and mucus, or, perhaps, produces hæmoptoë; in the advanced ſtate, the matter expectorated is purulent, and often mixed with the fine duſt of the iron and ſtone, united with mucus in a hardened ſtate.

The progreſs of the diſeaſe produces all the too well known ſymptoms of confirmed phthiſis pulmonalis. The patients gradually grow thinner and more emaciated; and are at laſt waſted by colliquative ſweats and diarrhœa, till they ceaſe to live. This progreſs is no doubt accelerated by the waſte of ſaliva, as well as by intemperance in drinking.

This fatal progreſſion is too well known, and particularly ſo to the unhappy victims of it; ſo much indeed, as to precipitate them by a kind of deſpair to neglect all means of relief.

In a conſiderable number of patients for whom I have been conſulted, I have given temporary relief by medicines uſually preſcribed for tabid patients of the pulmonary kind. I have often relieved and ſuſpended the progreſs of the diſeaſe: but when it had laſted ſome time, been rooted by habit, on continuing

continuing the buſineſs which was the original cauſe of it, it has generally ended fatally.

I think it probable that if theſe perſons were induced ſo far to attend to their ſafety as to uſe endeavours to prevent the inhalation of this pernicious duſt, by a contrivance of the nature I have ſuggeſted; and if they would habitually cool their hands and the heated needles, inſtead of waſting their ſaliva for that purpoſe, theſe precautions, with temperance, might very much retard, if not prevent, the progreſs of this fatal diſeaſe. Beſides, the hope thus ſupported would probably make theſe perſons more careful of themſelves, and more attentive to the means of early relief and of cure.

Worceſter, January 1, 1796.

ARTICLE

ARTICLE XI.

On the Poiſon of Fiſh.

By EDWARD THOMAS, M. D. Member of the College of Physicians.

Read February 17, 1796.

In making known the few following remarks on the cauſes and poiſonous effects of ſome fiſh in the Weſt Indies, I am actuated by two motives; the deſire of pointing out the importance of the ſubject, and the hopes of inducing ſome inquiſitive mind to aſcertain by farther inquiries the origin and different phœnomena of this ſingular poiſon, as it has been hitherto unaccountably neglected by thoſe gentlemen who have favoured the world with deſcriptions of the different diſeaſes incident to that climate, and but ſlightly noticed by Sloane, Cateſby, or Brown. The deleterious effects of fiſh are not confined to that part of the world alone; even in this

country inconveniencies of a ſimilar nature follow from their uſe, if credit be due to the information which I have received from ſeveral of the moſt eminent of the faculty, or the reſpectable authority of Dr. Cullen, be admitted, who obſerves in his Materia Medica, that "ſome kinds of fiſh, ſuch as eels, ſalmon, herrings, and in peculiar conſtitutions muſcles, or even lobſters, independently of their putreſcency, give a ſingular irritation to the ſyſtem, and, during their digeſtion in the ſtomach, occaſion a conſiderable effloreſcence on the ſkin, ſometimes partial, at other times on the whole body; ſometimes with a conſiderable febrile diſorder, but at other times with very little."

The cauſe of this deleterious quality in fiſh has given riſe to various conjectures. Some are inclined to think that there are two diſtinct varieties of the ſame fiſh, ſuch as we obſerve in the ſprat and cavallee; but the characteriſtic marks, if they do exiſt, are ſo obſcure, that the oldeſt and moſt experienced fiſhermen are conſtantly deceived, and though obvious in the above fiſh, do not, I think, extend to any other. How far a careful and minute examination by ſome intelligent natu-

raliſt

raliſt might tend to elucidate this matter is impoſſible to prejudge. The diſcovery would doubtleſs be attended with evident advantages, and the inveſtigation, though difficult and tedious, ſhould not be declined.

Others impute it to copperas banks on or near which fiſh feed; but with what degree of reaſon, is extremely doubtful, as the reality of ſuch banks in the Weſt Indies has never yet been ſatisfactorily proved; and though fiſh of that deſcription are frequently caught near particular parts of ſome iſlands, it is no proof in ſupport of this opinion, as they are often taken at a great diſtance from the land. We ſhould beſides be led to ſuppoſe, that all kinds of fiſh taken on the ſame banks would prove equally hurtful, as they are all alike expoſed to the ſame cauſes.

That it ariſes however from their food, is ſtrongly corroborated by ſeveral circumſtances; but what that food is, remains yet to be diſcovered. It is a well known fact that the land crab, cancer terreſtris, when taken near manchineel trees, is found, particularly in dry ſeaſons, at one time ſafe, at another poiſonous, from feeding on the bark or leaves of that tree, in lieu of other nou-

riſhment. The mountain crab is likewiſe dangerous at particular times of the year from a ſimilar cauſe. The inhabitants are ſo ſenſible of this, that they never eat them unleſs they have been kept in coops a fortnight or three weeks, and purged with the phyſic nut leaves. A convincing proof that amphibia may acquire this noxious quality from their food, without inconvenience or danger to themſelves.

When taken off the hook, if the precaution is uſed, to gut and ſalt them immediately, they ſeldom or never create any diſorder. The following facts evidently prove this.

Mr. Henry Berkley, treaſurer of the iſland of St. Kitt's, is extremely partial to the barracuta, and never refuſes to purchaſe them from fiſhermen whom he knows, provided they gut and ſalt them as ſoon as they are taken out of the water. He has never met with an accident ſince he adopted this practice, which is now upwards of thirty years. A fiſherman caught ſome yellow-bill ſprats in Halfmoon Bay, and after uſing the above precautions of gutting, &c. threw the entrails into the ſea, for fear of poiſoning his favourite dog, which accompanied him in all his ex-

 curſions:

curſions: this happened in the morning. He carried the ſprats home, and, together with his family, dined on them; in the afternoon he returned to his uſual occupation of catching ſprats, and obſerving his dog buſy eating ſomething which it had picked up in the ſurf, he had the curioſity to examine what it was, and found it to be the guts of the fiſh thrown aſhore by the waves. He immediately afterwards obſerved his dog in great agonies, and ſoon after he carried him home he died. The above is related from unqueſtionable authority, and can be confirmed by the teſtimony of ſeveral of the moſt reſpectable inhabitants of St. Kitt's. Another fact, equally important, happened to Mr. Duport, at Palmetto Point. This man has been a fiſherman more than forty years, and employs a number of negroes in drawing ſeins in different parts of the iſland. They one day caught a great quantity of yellow-bill ſprats, which, as uſual, he forbade his negroes to make uſe of, to avoid accidents; but, contrary to his orders, they gutted a number of them and threw the guts on a dung-heap in an encloſed yard where he kept his poultry. To his aſtoniſhment next morning, he found a great

great number of them dead, but, on inquiry, none of his people were affected. Mr. Joſeph Rawlins, of the ſame iſland, had a negro poiſoned by ſprats; on inquiring into the particulars, he was told that the fiſhermen who caught them, had made a hearty breakfaſt on them without experiencing the ſlighteſt inconvenience. The following inſtance ſhews the extreme ſubtlety of the poiſon. Mr. Thomas, of St. Kitt's, a ſurgeon, ſince deceaſed, was deſired by one of his ſervants to examine ſome yellow-bill ſprats which had lain a few hours in the houſe, as they had a ſuſpicious appearance; on examination he found a number of flies lying dead on the bodies of the fiſh, and on different parts of the table, others half alive were crawling away from deſtruction as faſt as they could, though ſome of the ſame ſprats had been conſumed in the morning by his ſervants without any bad conſequences.

Laſtly, the quantity of poiſoned fiſh had been found more numerous at ſome particular periods of the year than at others. This, however, is not confirmed by experience, for ſome relying too much on this circumſtance, expoſe themſelves to great danger. A negro

fiſherman of Dr. Stevens of St. Kitt's, accuſtomed to eat the yellow-bill ſprat when in ſeaſon, (as it is generally termed) and conſtantly eſcaping its poiſonous effects, at length grew ſo confident, that he imagined himſelf proof againſt the effects of any fiſh-poiſon, and one day requeſted from the cook the remainder of the barracuta which had poiſoned a Mr. Elliot; his requeſt was granted, he ate it, and ſuffered very ſeverely for his temerity.

This poiſon does not pervade indiſcriminately the different claſſes of fiſh found in the Weſt Indian ſeas; but obſerves a regularity, which, I believe, it has never been known to deviate from, however nearly related the fiſh may be to one another. The black-bill ſprat *(harenga minor)* of Cateſby, for inſtance, is always wholeſome, though ſo nearly allied to the yellow-bill, that it requires a very nice eye to diſcover the difference. The fiſh moſt to be dreaded are, the barracuta, yellow-bill ſprat, cavallee, rock-fiſh, king-fiſh, ſmooth bottle-fiſh, and lobſter.

The barracuta *(perca major)* of Brown, is ſo often poiſonous, that it is ſeldom touched, although introduced at table, and by ſome accounted a very delicate diſh. It is a very voracious

voracious fiſh, and has been ſometimes known to attack people who were bathing in the ſea. A leſs ſpecies, called umbla minor, is mentioned by Sloane, who ſays, that, according to its feeding on venomous or not venomous food, it is wholeſome or poiſonous to thoſe that eat it; alſo noxious in ſome ſeaſons of the year and in ſome places, and innocent in others, I ſuppoſe, according to its nouriſhment, by which now and then it acquires ſo much poiſon as to kill immediately.

The yellow-bill ſprat, or windward ſprat, not noticed by Sloane, Cateſby, or Brown, is known from the black-bill *(harenga minor)* by the minuteneſs of its ſcales, and by a yellow ſpot on each ſide of its head. It is always to be dreaded, and therefore is only purchaſed by the lower claſs of inhabitants, or by people of colour.

The cavallee *(ſcamber)* of Brown. Three varieties of this fiſh are brought to market, the bottle-noſe, amber, and green-back. The two firſt frequently prove poiſonous, the laſt is always innocent.

The *perca marina* of Cateſby, or rock-fiſh. This fiſh, Cateſby ſays, has the worſt character for its poiſonous quality of any other

among the Bahama Iſlands, but whether they are eatable from any particular places, I know not, many of theſe poiſonous fiſhes being not ſo when caught in ſome places; of which the inhabitants can give a near gueſs, but ſometimes they are miſerably miſtaken.

The king-fiſh *(xiphias)* of Brown, derives its Engliſh name from its ſuperior delicacy, but, notwithſtanding its high reputation, proves now and then poiſonous.

The ſmooth bottle-fiſh *(oſtracion glabellum)* found in Kingſton Harbour, Jamaica, in one inſtance killed in half an hour, producing general coldneſs, nauſea, ſupineneſs, and death: by uſe of vomits timely adminiſtered, ſome who had eaten it recovered. Dr. Wright attended the patients, and ſtated the fact to Mr. Home in his weekly return.

The ſea lobſter *(aſtacus)* of Brown, though claſſed among inſects, I have thought proper to mention here, as it is at times equally dangerous.

The conſequences attending this poiſon are, in general, very alarming, and in many inſtances fatal. A negro of Mrs. Deming's, of St. Kitt's, died in the moſt excruciating agonies from eating the yellow-bill ſprat; another

another negro on Borryau's eſtate, whom Dr. Stevens attended, died from the ſame cauſe.

Some ſtomachs ſeem to be more ſuſceptible of the action of the poiſon than others, and feel the effects of it almoſt immediately: the ſymptoms in others do not appear until two, three, or four hours after the accident, and ſome eſcape their violence altogether. A party of gentlemen marooning ſome years ago at Friars Bay, dined on cavallee; all who partook of it were poiſoned, ſome ſooner, ſome later than others; and, if my memory does not fail me, two out of the number died in conſequence of it, although not immediately. One gentleman who had drank a large quantity of Madeira wine, felt no other ill effects from what he had eaten, than a ſlight ſwelling in his knees. This precaution, however, cannot always be depended upon, as a friend of mine was ſeverely poiſoned by a lobſter, notwithſtanding he had fortified his ſtomach with a bottle of old Madeira and a bottle of cherry-brandy.

The uſual ſymptoms of fiſh-poiſon are cardialgia, nauſea, ſevere vomiting, and purging, tormina, cold ſweats, fainting, and, in ſome, vertigo: the face in the mean time becomes

highly flushed, and the eyes inflamed, attended with a burning heat and spasmodic twitches, which particularly affect the eyes, the sufferers often complaining that they are ready to start from their sockets. The burning which is felt in the face and eyes is extended to the palms of the hands, the tips of the fingers, and over the whole body; sometimes accompanied, and sometimes succeeded, by a miliary eruption, or, by an efflorescence resembling the bite of a bug, but more extensive. The pulse, for the most part, is hard and frequent. This ardor of the skin, and a prickling in the hands and nose when immersed in cold water, are almost invariable symptoms of fish-poison, and enable the practitioner to decide with confidence on the nature of the disease.

The neck of the bladder, urethra, and sphincter ani, appear to sympathize with the skin, as the patients often complain of a like ardor in those parts, with a difficulty of making water, strangury, and afflicting tenesmus.

When the violence of the disorder is somewhat abated, the cuticle begins to scale off in various parts of the body. In one patient whom I attended, a miliary efflorescence ac-

companied the ardor of the ſkin, without any evident deſquamation.

The laſt and moſt tedious ſymptom, which may be rather conſidered as ſecondary, is an acute and ſhooting pain in the articulations of the knee, wriſt, ancles, and ſometimes in the cylindrical bones, with more or leſs ſwelling. It is diſtreſſing at intervals for years after every other train of the diſorder has diſappeared, and is not unfrequently attended with œdema.

This is the ordinary courſe of the diſorder, collected from a variety of caſes that came under my own immediate inſpection, all of which terminated happily. But, unfortunately, the iſſue is not always ſo favourable; the health of ſome who eſcape its fatal effects, is often ſo much impaired, that a foundation is laid for a train of other evils, and a viſit to a cold climate is at laſt found neceſſary to reſtore vigour to their conſtitutions.

The conſequences ſhould always be dreaded, and relief ought to be given immediately, as it is impoſſible to foreſee the event with any degree of certainty. Much, however, may be learned from the different ſymptoms, although they are liable to great variations,

from a greater or a lefs degree of irritability exifting in the ftomach, from the quantity taken, or from a greater degree of acrimony in the poifon; for why fhould it attack fome only flightly, and prove fatal to others?

The affinity of this diforder to cholera is fo great, that it requires a confiderable fhare of practical knowledge to difcriminate them. You muft be led entirely by the appearance and fenfation of the fkin, as they are the only and fafeft guides, where no certain information can be collected of the food of the patient, or of the nature of the fifh. It is of the higheft importance to afcertain this diftinction, as a miftake might endanger the life of the patient. In cholera, it is the duty of the phyfician to ftop the progrefs of the diforder as foon as he can; whereas, in fifh-poifon, a difcharge of the deleterious matter is the firft intention of cure, and fhould be promoted according to the ftrength of the patient.

In the cure of this diforder two purpofes are clearly pointed out, viz. to procure a difcharge of the poifon as fpeedily as poffible, and to remove or alleviate the effects that refult from it. The firft can only be effected by

by medicines whoſe operation is quick and effective, and of all thoſe I think a preference ſhould be given to the vitriolated zinc, which, if timely adminiſtered, is alone ſufficient to obviate the dangerous tendency of the poiſon. But, as it is difficult to aſcertain whether the whole of the poiſon has been removed, I conſider it always moſt prudent to give a ſolution of the vitriolated natron, or ſome other ſalt, after the operation of the emetic, and continue it as long as the different circumſtances point out its neceſſity. This method is practicable in robuſt conſtitutions, where evacuations may be carried to almoſt any lengths; but, in weak delicate habits, the vomiting and purging are ſo ſevere, and debilitate the patients ſo much, that you are frequently under the neceſſity of preſcribing anodynes, before you are certain that the ſtomach and inteſtines have been freed from their noxious contents: the interval of eaſe they procure invigorates the ſyſtem, and enables the ſtomach to retain ſuch medicines as are proper to remove the poiſon.

To effect the ſecond intention, no poſitive rule can be laid down, as you are to be directed by the nature and violence of the

ſymptoms.

ſymptoms. After due evacuations, if the ſymptoms of cholera ſtill continue, which frequently happens, they ſhould be checked by anodynes, cordials, and glyſters of water gruel or ſtarch, with or without laudanum. A gentle moiſture of the ſkin may then be promoted by the uſe of mild diaphoretics; and here none anſwers better than the common Dover's powder; the ardor of the ſkin is powerfully relieved by this medicine. A liberal uſe of ſome mucilaginous drink ſhould be recommended as lóng as the ſtrangury remains. The pains of the articulations are ſometimes very obſtinate and yield to nothing but time. Relief may neverthelefs be procured by decoctions of guaiacum and ſarſaparilla, by wrapping the parts in flannel, and ſometimes from the warm and ſometimes from the cold bath. From the beneficial effects of old Madeira in the one inſtance related, I think it would not be amiſs to recommend a liberal uſe of it to ſuch as were under a ſuſpicion of being poiſoned, where no medicine could be procured, or where the averſion to medicines could not be overcome; but it is rather a dangerous experiment. The oil of the bignonia is warmly recommended by

ſome,

ſome, and frequently adminiſtered by negroes to people of their colour, but with what ſucceſs I cannot ſay, as I never ſaw it uſed.

As it is of the utmoſt importance to be able to diſtinguiſh a wholeſome fiſh from one that is poiſonous, it is highly neceſſary to be adviſed of the means that have been hitherto taken to diſcover it. When a fiſh is ſuſpected to be poiſonous, it is a common practice to hold a ſilver ſpoon for ſome time in the water in which it is boiling, and if the ſpoon be taken out unſullied, the fiſh is reputed ſafe; but if the colour be in any manner changed, the fiſh is immediately thrown away as unwholeſome. A ſafer and ſurer criterion to judge by, is, to give the entrails of the fiſh to a dog or other animal; if, after ſome time, no inconvenience or apparent diſorder ariſes from it, the fiſh may then be eaten with ſafety.

There are ſome who maintain that a diſcoloration of the inteſtines and blood veſſels are poſitive ſigns of poiſon; but I am ſorry that I can neither confirm nor deny their aſſertion from ocular proof, as opportunities of examining theſe fiſh ſeldom occur, being generally thrown away after their nature is known, or conſumed before they are ſuſ-

pected.

pected. I underſtand it is by no means a conſtant ſign, and therefore leſs to be depended upon, as it may have taken place in conſequence of ſome change in their œconomy ſimilar to ſome European fiſh. What Du Tertre ſays of the teeth of the barracuta is erroneous, as it was contradicted by the beſt information I could obtain.

Another opinion prevails amongſt the fiſhermen, that fiſh without ſcales are moſt liable to be affected by this poiſon; which ſeems to be the reſult of experience, and deſerves particular attention from thoſe who mean hereafter to proſecute the inquiry, as the greater part of the fiſh which have been deſcribed are deficient in this reſpect.

The ſilence of the ſeveral gentlemen who have deſcribed the diſorders of warm climates, on the preceding ſubject, may afford room to doubt the exiſtence of a poiſon in fiſh, and to aſcribe to other cauſes the effects which reſult from it: but though unacquainted with the cauſes and nature of this poiſon, I may, without preſumption, ſay, that the facts which have been brought forward in ſupport of it are ſo ſtrong and pointed, that no further doubt can remain on the ſubject. From

these ſame facts the following inferences may be clearly drawn; that the poiſon lies in the inteſtinal tube, is aſſimilated with their food, and circulates without any detriment to the fiſh; that its effects are, in general, more deleterious to animals than to man, and laſtly, that the longer the fiſh remains out of water, the more violent the poiſon becomes: but whether the proceſs of putreſcency, which is rapid in the Weſt Indies, adds a greater degree of acrimony to the poiſon, or whether it is the conſequence of tranſudation, muſt be left to be determined by future obſervations.

In the VIIth Volume of Medical Facts and Obſervations, page 289, Dr. Clarke, of Dominica, in a letter to Dr. Simmons, of London, obſerves, "Capſicum *(Cayenne* "*pepper)* has been known, long ago, to poſſeſs the power "of preventing or counter-acting, the poiſonous effects "of fiſh." He adds, "This fiſh poiſon ſeldom deſtroys "life entirely, except the deadly poiſon of the yellow-"billed ſprat, as it is called, which kills very ſpeedily; "but thoſe who have eaten of the other kinds of poi-"ſonous fiſh, are frequently reduced to the laſt extremity "by vomiting, and life is almoſt extinguiſhed before "ſtimulants can take effect."

ARTICLE

ARTICLE XII.

Case of Deposition of Mercury upon the Bones.

By FRANCIS RIGBY BRODBELT.

Read April 18, 1796.

MR. PRESIDENT AND GENTLEMEN,

Having some time ago related a case to the members of the society, which appeared to them rather a remarkable one, I was desired to draw up the particulars of it, which I now have the honour of presenting to the Society.

In the winter of 1792, when prosecuting the dissections at St. Thomas's Hospital, it fell to my lot to have a subject that was affected with the venereal disease; which evinced itself by chancres on the glans penis, and a suppurative bubo; but the death of the patient seemed evidently to have been brought on by universal dropsy, and especially by that of the breast.

After

After having finiſhed my intended diſſections, I took out the bones and ligaments of the larynx in order to prepare them myſelf, and ſent away the ſubject to be converted into a ſkeleton.

When I had removed the muſcular parts from the larynx, &c. I left it during the night to dry, intending on the next day to finiſh the preparation; but my ſurpriſe was great to behold it covered with globules of mercury, which had, I ſuppoſe, eſcaped my obſervation the night before, either from the parts being wet, or from my having been obliged to make uſe of the light of candles.

On examining the *os hyoïdes*, I found it very much covered with the quickſilver, as were likewiſe the thyroïd and cricoïd cartilages; ſmall particles were alſo diſcovered upon the trachea; but they appeared to have been ſcattered upon that part, from the incautious manner in which I had detached the muſcles the night before, not being aware, that ſo remarkable a *phænomenon* would have preſented itſelf.—My curioſity being raiſed at this unexpected occurrence, I was led to examine the bones that were mace-

 rating,

rating, to discover whether they likewise were affected in the same manner with the mercury.

I detached the fleshy parts from the *os frontis*, the *sternum* and *tibia*, and, after having carefully examined these bones, I was fully persuaded from their appearance, that the metal had been deposited upon every bone in the body; for, although upon these bones the globules of quicksilver were small in comparison with those on the larynx, (some of which were the size of a common pin's head) yet even here, by a little minute inspection, they were easily discovered, and, by the help of a magnifying glass, were readily made to appear.

Since the skeleton has been completed, I have examined the bones, and have found almost every cylindrical one, together with the *sternum*, and one of the *scapulæ*, affected with the venereal disease, but have not been able to discover any traces of mercury on them; was also equally unsuccessful on sawing one of the *tibiæ* in two.

REMARKS.

REMARKS.

From the little notice taken by medical cal authors of the above-mentioned *phæno-menon*, we are naturally led to conclude, that a caſe of this kind is rare, and the diſ-covery of ſuch caſes being only to be brought about by the diſſection of patients who have died of the venereal diſeaſe (which is a rare occurrence), it may be a long time before we ſhall be able to determine, in what proportion of caſes the depoſition of mercury on the bones takes place.

We are informed by Caſtelli, that he found two ounces of mercury in the body of a woman.

Wepfer likewiſe mentions having ſeen a large quantity flow from the occipital hole, accompanied with a black powder; and Schenkius ſpeaks of a man, who, after three frictions with mercury, vomited a cupful of the metal.

Whether we ſhould give credit to ſuch accounts I will not take upon me to deter-mine.

It would have been a ſatisfaction to have

learned what preparations of mercury the patient had been making uſe of, but, from the manner in which I obtained the body, it was utterly impoſſible.

Even ſuppoſing them to have been the leaſt oxydated, as the common blue ointment, yet it is ſtill remarkable, that the metal ſhould, after having been divided into ſuch minute particles, and circulated through the body, return to its priſtine fluidity.

It is not eaſy to determine in what manner mercury acts upon the body, in the cure of the venereal diſeaſe; but it is certain, that in general, after it has produced its due effect, it is expelled from the ſyſtem either with the perſpiration, the urine, or by other evacuations, and patients are in no manner incommoded.

It is alledged indeed by ſome authors, but I believe, upon no juſt grounds (as they do not produce facts to prove their aſſertion), that the violent pains in the bones, reſembling thoſe that are venereal, which ſometimes ariſe from the too free uſe of mercury, are to be attributed to the metal collected in globules in the cavities of the bones.

It

It would be abſurd to ſuppoſe, that there could have been any particular power in this patient's body capable of reducing the metal; but we may venture to give it as our opinion, that the depoſition upon the bones might have been occaſioned, or increaſed, by the diſeaſe of which the patient died.

As in dropſy, we know, that the abſorbents are in general much debilitated, and in a great meaſure do not perform their office, it appears to me not improbable, that after the mercury had been depoſited upon the bones by the exhaling arteries, (whoſe action is alſo much increaſed by relaxation) the lymphatics of the part, perhaps from the dropſical ſymptoms increaſing, had not been able to take it up, and re-convey it into the circulating ſyſtem.

When we conſider how near the larynx is ſituated to the heart, and how very plentifully it is ſupplied with blood, we cannot heſitate in declaring theſe to be the cauſes of the globules of mercury being much larger here, than in any other part of the body.

FRANCIS RIGBY BRODBELT.

N. B. Dr. B. ſubjoined two caſes where he had given mercury to dogs, and one where he had given it to a rabbit, in as large a quantity as poſſible; but he was not able to diſcover the leaſt veſtige of it on the larynx or bones of either: he propoſes to try mercurial friction when time will permit.

ARTICLE

ARTICLE XIII.

Obſervations on the Wiggleſworth Water.

By T. GARNETT, M. D. C. M. S. &c. Physician at Harrogate.

Read May 25, 1795.

To J. LETTSOM, M. D.

DEAR SIR, *Harrogate, Dec. 19, 1793.*

Having occaſion to paſs through Settle ſome time ago, I was induced to viſit ſome mineral waters at Wiggleſworth, about five miles from Settle. If you think the following account of their nature and medicinal virtues worth preſenting to the Medical Society, it is much at your ſervice. I regret that I had not time to make a full and complete analyſis of them; but the experiments which I made enable me to aſcertain, with ſufficient accuracy, the nature of the ſubſtances they contain. Though at preſent leſs attention is paid to theſe waters than they

 deſerve,

deſerve, they ſeem formerly to have engroſſed a greater degree of public favour, particularly the ſulphur-well, which was encloſed with a cover one hundred and twenty-ſeven years ſince, as appears by a date on one of the ſtones. Dr. Short takes notice of theſe waters in his hiſtory of the mineral waters of Derbyſhire, Lincolnſhire, and Yorkſhire, and ſays, that in his time "the country people drank four or five pints of the ſulphur water to vomit them, and ſix or ſeven to purge them." The water in the ſulphur-well appears to have a blackiſh tinge, but, when taken up in a glaſs is perfectly clear and tranſparent; it has a ſtrong hepatic or ſulphureous ſmell, ſimilar to bilge water, or the ſcourings of a gun; or, to the celebrated ſulphur-water at Harrogate. It has a bitter ſaline taſte, though weak, and, when ſuffered to ſtand in conſiderable quantity, the ſurface expoſed to the air is ſoon covered with a white or yellowiſh film, owing to the decompoſition of the ſulphurated hydrogen gas by the oxygen of the atmoſpheric air. From the experiments which I made, it appears that this water is impregnated with Epſom ſalt, or *ſulphat of magneſia*, in the proportion of ſe-

venty-

venty-five grains in a gallon. A wine gallon likewiſe contains twenty-one cubic inches of aërial fluids, of which ſeventeen conſiſt of *ſulphurated hydrogen*, or hepatic air, with a ſmall portion of fixed air or *carbonic acid*, and the remaining four of *azote*.

Hence it is evident, that this water differs from the ſulphur-water at Harrogate principally in containing a much ſmaller quantity of ſaline matter *; being impregnated with ſimilar aërial fluids, though in ſomewhat ſmaller quantity. It ſeems to approach nearly to the ſulphur-water at Shap, in Weſtmoreland, which is much reſorted to, though the accommodations are by no means good; and I have no doubt that the Wiggleſworth water will be found at leaſt equally efficacious with that at Shap.

At the diſtance of about a foot from the ſulphur-well, is a weak chalybeate water. It contains a ſmall quantity of iron ſuſpended by fixed air, and a ſmall portion of *ſelenite* or *ſulphat of lime*; but ſcarcely deſerves notice,

* The whole quantity of ſaline matter contained in the Wiggleſworth ſulphur-water is only 3 dwts. 3 gr. whereas the ſame quantity of the ſulphur-water at Harrogate contains no leſs than 1 oz. 11 dwts. 10 gr.

becauſe

becauſe about two hundred yards above, on the ſide of a rivulet, is a pleaſant and much ſtronger chalybeate water, which will always be uſed in preference to it. A wine gallon of this laſt chalybeate contains about two grains of *carbonate of iron*, and is impregnated with ſixteen cubic inches of aërial fluids, of which eleven conſiſt of fixed air, or *carbonic acid gas*, and the remaining five of *azote*.

If this ſhort account of the nature and properties of the Wiggleſworth water ſhould be ſufficient to fix the attention of neighbouring practitioners on thoſe ſprings which the bountiful Creator has undoubtedly beſtowed for the relief of our diſtreſſed fellow-creatures, it will give great pleaſure to

Your very obedient, &c.

T. GARNETT.

ARTICLE

ARTICLE XIV.

Observations on the Nature and Virtues of the Harrogate Waters.

BY T. GARNETT, M. D. C. M. S. &c. PHYSICIAN AT HARROGATE.

Read MAY 27, 1793.

IT is much to be wished that physicians residing near the different mineral waters resorted to in this island, would draw up a faithful account of their nature and properties; by which means medical practitioners would more competently form a judgment to what places to send their patients with the greatest probability of relief. Such an account might easily be comprised in a small volume, and would not only be useful to every medical gentleman, but interesting to the public at large.

The mineral waters at Harrogate have been long known, and deservedly celebrated; yet

I think it will readily be acknowledged that medical practitioners in general have been very imperfectly acquainted with their nature and virtues; and though great numbers of patients resort to this watering place every year, yet it is certain that more come upon the recommendation of their friends who have been here before, than in consequence of the advice of their physician.

As we have not been favoured with any accurate analysis of these waters, it is not surprising that medical gentlemen, who have never been upon the spot, should be, in a great measure, ignorant of their nature, and, consequently, of the diseases in which they are proper. I have lately published a treatise on those waters, containing their chemical analysis, medicinal properties, and plain directions for their use: but am persuaded, that a short account of their nature and properties, inserted in the Memoirs of the Medical Society, will have a more extensive circulation than the publication of a private individual.

The mineral waters at Harrogate are numerous, but may, in a general way, be divided into two classes; *sulphureous* and *chalybeate*. Of the former, there are some which

are

are ſtrongly impregnated with ſulphurated hydrogen and other gaſes, and which alſo contain a conſiderable portion of neutral ſalts: there are others impregnated with the ſame gaſes, which contain a much ſmaller portion of the ſame, and different ſaline matters; and others again which poſſeſs the ſulphureous impregnation, without any ſenſible, or at leaſt conſiderable, portion of ſaline ſubſtances.

The chalybeates are of various degrees of ſtrength, conſiſting generally of iron ſuſpended by fixed air; but we have one in which the iron is united to the muriatic acid, which is very uncommon. I have lately diſcovered a chalybeate water not far from the ſulphur-wells, which will be very convenient for the company at Low-Harrogate, and which ſeems full as ſtrong as the chalybeates at High-Harrogate; I have not yet completed the analyſis of it, but, as ſoon as that is done, I intend to preſent it to the ſociety *.

The waters moſt in uſe are the ſulphur-wells at Low-Harrogate, containing a ſtrong ſaline, as well as ſulphureous impregnation;

* Since this Memoir was read, Dr. Garnett has ſent the analyſis of the water here alluded to, and which he calls St. George's Spa; its contents are given in the Table.

 the

the chalybeates at High-Harrogate, viz. the Tewit well and Old Spa, and the Crefcent water at Low-Harrogate, which is of a middle nature, being both fulphureous and chalybeate. The contents in a wine gallon of each of thefe waters may be feen in the following table.

A TABLE

A TABLE

Exhibiting the Contents, in a Wine Gallon, of each of the Harrogate Waters.

NAMES of the WATERS.	Specific gravity.	Cubic Inches.			Grains.								
		Carbonic acid gas.	Azotic gas.	Hepatic or fulphurated hydrog. gas.	Muriat of foda.	Muriat of lime.	Muriat of magnefia.	Carbonat of lime.	Carbonat of magnefia.	Carbonat of iron.	Sulphat of magnefia.	Sulphat of foda.	Sulphat of lime.
Sulphur Water.	1,0064	8	7	19	615,5	13	91	18,5	5,5	—	10,5	—	—
Crefcent Water.	1,002	20,8	—	13,6	137	—	45	3,1	—	2	8	—	—
Tewit Well.	1,00017	16	5	—	—	—	—	—	—	2,5	—	—	4
Old Spa.	1,00014	15,75	4,25	—	—	—	—	—	—	2	—	3	1,5
St. George's Spa.	1,00012	13,5	3,5	—	—	—	—	—	—	2	—	—	4,5

Though the water which is moſt uſed is the ſulphureous ſaline water, the analyſis of which ſtands firſt in this table; yet, on account of the large quantity of ſalt which it contains, there are ſome invalids with whom it will not agree. In theſe caſes I have generally recommended the water ſimply impregnated with ſulphurated hydrogen gas, which ſeldom diſagrees with the moſt irritable ſtomach, and which anſwers every intention to be expected from the ſulphur water in common uſe, except acting as a purgative. I have found ſome patients, though but few, afflicted with herpetic eruptions, who could not, on account of the great irritability of the ſkin, bear the common ſulphur water applied as a warm bath. Such patients have uſed the ſimple ſulphurated water, without experiencing the irritation which aroſe from the ſalts in the other water.

It will appear from the table that theſe waters contain a conſiderable portion of azotic gas, which has eſcaped the attention of other chemiſts who have attempted to analyze them, owing to the imperfect knowledge which they then had of the properties of this elaſtic fluid,

fluid, for it is only lately that we have obtained any accurate notions concerning it.

Whether the azotic gas contained in theſe waters poſſeſſes any peculiar medicinal powers, I cannot ſay; for, I know of no experiments that have been made, which would warrant us in concluding either that it does or does not. By reaſoning alone we may be led to think, (and the induſtry of philoſophers may perhaps ſhortly prove) that this elaſtic fluid, which is more abundant in nature than any other, and which forms a principal conſtituent part of nitrous acid and volatile alkali, poſſeſſes no ignoble place in the animal economy. From ſome late experiments made by Dr. Prieſtley, it appears that a quantity of azote is ſubtracted from the atmoſphere, and taken into the blood by the action of reſpiration, and we know that this ſubſtance exiſts in great plenty in the animal body, forming a great part of the volatile alkali which may be procured from all animals. It is by no means improbable that this fluid taken into the body together with the water, may be applied to this purpoſe.

With regard to the medicinal properties of the

the *ſulphur-water*, it may be obſerved, that the ſalts with which the water commonly drank is impregnated, render it a mild purgative; it paſſes off quickly and eaſily, ſeldom occaſioning the leaſt pain in the bowels; hence it may be uſed either as a powerful evacuant, or as a gentle laxative. Its impregnation with hepatic air renders it one of the moſt powerful remedies in cutaneous complaints, that we are acquainted with.

When I publiſhed my Treatiſe on the Harrogate Waters, I propoſed as a query, Whether the ſulphur-water might not be preſcribed with advantage in *colica pictonum?* Our grand indication in this complaint muſt be to remove or correct the exciting cauſe, which is the lead: any other indication can only be ſecondary or ſubordinate; for, it is moſt probable that all the ſymptoms will diſappear when we have fulfilled this indication. The effect produced by hepatic air upon lead is remarkable, and I thought it probable that the lead being thus mineraliſed by ſulphur, would loſe much of its activity, as is the caſe with ſome other mineral ſubſtances. I have ſince met with two caſes which had reſiſted the application of a variety of remedies,

but

but were ſpeedily cured by the ſulphur-water: the ſubject of one was a coach-painter, the other a lead-miner.

But though in moſt caſes attended with an inflammatory ſtate of the ſyſtem, the ſulphurated ſaline waters may be uſed with advantage, yet, in diſeaſes depending on a relaxed or debilitated ſtate of the ſyſtem, they are improper. In theſe caſes, however, we have a remedy in the chalybeate waters.

ARTICLE XV.

An Account of Experiments performed with a View to ascertain the Effect of the Nitric Acid upon Iron deposited in the Stomach of an Animal.

BY EDWARD HARRISON, M. D. MEMBER OF THE ROYAL ANTIQUARIAN SOCIETY OF SCOTLAND,—FORMERLY PRESIDENT OF THE ROYAL MEDICAL, AND ROYAL PHYSICAL SOCIETIES, AT EDINBURGH,—CORRESPONDING MEMBER OF THE LONDON MEDICAL SOCIETY, &c.

Read MAY 2, 1796.

A DOUBT having been entertained, by ſome eminent philoſophers, whether it be poſſible to diſſolve iron in the living body, without injury to the ſtomach, I am happy in being able to bring forward an experiment, which is to me concluſive upon the ſubject, and will, I hope, be equally ſatisfactory to the public. I regret, that ſome unfortunate circumſtances have hitherto prevented my complete execution of the plan that I had determined upon; becauſe I flatter myſelf that the method of cure, as it appears from the preceding

ceding caſe, will open a new mode of affording relief to our afflicted fellow-creatures.

In purſuance of this opinion, I truſt it will ſoon be in my power to communicate a ſeries of experiments with acids upon iron, and ſuch other metallic bodies as are moſt likely to be found in the human ſtomach. In carrying them on I ſhall endeavour to aſcertain the moſt eligible acids for the purpoſe, the proper quantities of each, and how they may be given, without injury to the conſtitution.

On Friday the 23d of October, ſeven caſt-iron nails were ſtuck into a piece of liver, and given to an healthy dog. They weighed ninety grains, apothecaries weight, and were exactly like thoſe deſcribed in the ſucceeding caſe of GEORGE HALL. I ought perhaps to have encloſed them in ſome article of food more ſoluble than raw, unmaſticated liver; for, it will be found in the ſequel, that two nails were mixed with the excrement, and, as the greateſt part was voided during the firſt night, I think it probable that they were carried out of the ſtomach and bowels by a portion of undigeſted liver. On the next day he began with the diluted nitric acid, prepared according to the *formula*, and from the ſame bottle of acid that was uſed for GEORGE HALL.

 On

On Saturday night he took ʒij. at once.

Sunday ———————— ʒjx. in three equal doſes.
Monday ———————— ʒjx. ditto.
Tueſday ———————— ʒjx. ditto.
Wedneſday ———————— ℥jſs. at four times.
Thurſday ———————— ℥jſs. ditto.
Friday ———————— ʒjx. at three times.

It appears, as above ſtated, that in the ſpace of ſeven days, the dog took ſeven ounces and ſix drams of the diluted nitric acid. From Saturday till Tueſday he ſuffered no inconvenience. He began then to cough after taking the acid, and, on Thurſday, was obſerved to foam at the mouth after the laſt doſe. Both theſe ſymptoms occurred on every ſubſequent exhibition.

But, when the acid had been ſwallowed only a few minutes, he became ſportive and gay, as if nothing had been taken; and remained in perfect health till the next doſe was forced upon him.

Theſe were the only obvious circumſtances that took place during the experiment. In the caſe of GEORGE HALL, the firſt ſymptoms were eructations of an elaſtic fluid, and, on theſe, epilepſy and hiccough were ſuperinduced. But it ought to be remarked, that although

nearly the ſame quantities of acid were conſumed in both caſes, GEORGE HALL took more of it each day, and there was leſs iron to be acted upon. As the animal ſhewed a great averſion to the acid, after he had taken only a few doſes, it is probable he felt ſome uneaſineſs from it, and this might proceed from griping at the ſtomach and extrication of hydrogen gas, as occurred to GEORGE HALL.

It was my intention to have given an ounce and a half of the mixture every day, at ſix equal doſes, that the trial might agree in every reſpect with the caſe; but the dog manifeſted ſuch diſtaſte for the acid, that we determined to give the quantity in four equal doſes. My profeſſional engagements at that time detained me ſo much from home, that in the beginning he took only three doſes in the day. Theſe were followed by no particular ſymptoms, and probably, when acids are exhibited, it will be prudent in future to confine them to ſmaller doſes. In this way I ſhould hope the practitioner may continue his plan of cure for a longer time, and accompliſh his intention without inconvenience to the patient.

During the whole proceſs the dog lived on

ſtrong broths, and care was taken not to give the acid and nutriment near to one another.

As I was otherwiſe engaged, he was not killed before Tueſday morning, November the third. Upon diſcontinuing the acid he became free from cough, ſeldom foamed at the mouth, and ſeemed in good health. When he had been hung about half an hour, the examination was made, by laying him open from the mouth to the anus.

As he had been reſtrained from ſolid diet, the ſtomach, with the ſmall inteſtines, were nearly empty. They exhibited no marks of diſeaſe. In the ſtomach was a little froth, ſuch as was diſcharged upon taking the acid. The large inteſtines contained a ſmall portion of *fæces*, but ſhewed no appearance of diſeaſe. In the colon we met with a little hard friable matter, which ſeemed to reſemble the ruſt of iron, but, we diſcovered no other appearance of the nails, though ſuch was our diligence, that I am ſatisfied not the ſmalleſt fragment could have eſcaped obſervation. We carefully preſerved the *fæces* that were voided during the experiment, and paſſed them through a very fine ſieve, upon a clean floor. In them were two nails in a perfect ſtate, but it is doubtful

doubtful whether both came from this dog; for another to whom we had given a dose of nails in liver, remained one night in the chamber, and accidentally hung himself. When we took up and examined the excrement of both, I do not undertake to assert, from which of them the nails were expelled, I believe that each of them voided *one*: but, however that might be, the trial was equally satisfactory and conclusive. Let us assume the lowest calculation, viz. that only *five* nails out of seven were destroyed, the efficacy of nitric acid on iron in the stomach, appears to be fully confirmed, and the outline of a practice described, which will, I hope, in other hands, be improved, and found safe and useful.

I thought it necessary to trouble you with this letter by way of introduction to the case; for as I have reasoned myself into an opinion, that its publication may prove beneficial to society, I am unwilling to delay the communication, although the subject might be strengthened and illustrated by further experiments,

E. HARRISON.

Dec. 10, 1795.

ARTICLE

ARTICLE XVI.

A Caſe of Iron Nails diſſolved in the Human Stomach, by Means of the Nitric Acid, without any bad Conſequences.

BY E. HARRISON, M. D. &c.

Read MAY, 2, 1796.

GEORGE HALL, aged about 23 years, complains of pricking pains in his ſtomach, which hurt him upon motion, and eſpecially on bending or ſtooping forward. In an erect poſture he is pretty eaſy; but walking upon a pavement, or on a hard uneven road, gives him great uneaſineſs. Yeſterday, May the 5th, he incautiouſly ſwallowed two nails, and a conſiderable portion of another. To theſe he imputes the complaint at his ſtomach. From his deſcription they are made of caſt iron, are about an inch in length, and have

have large heads and very ſharp points. One, it appears, ſtuck in the *œſophagus*, and was forcibly thruſt into his ſtomach by the probang. This operation, which was performed immediately after the accident, gave him great pain, and was followed by a vomiting of coagulated blood. He has not been ſick ſince yeſterday—has had a natural ſtool today. In other reſpects he enjoys a good ſtate of health.

> ℞. * Acid. nitros. ʒi. aquæ ℥j. m. capiat ʒij. ſtatim ex aquæ puræ cochl. j. amplo.

In a few minutes after taking the acid he felt a ſlight griping in the ſtomach, which left him without ſickneſs, after two or three eructations of wind.

> Capiat ʒij. m. ex aquæ calidæ ʒj. ſed prius adde T. Opii puri gutt. x. Repetatur doſis iſtiuſmodi ſexies de die et nocte.

Tueſday, May 6, 1794. According to my

* The ſpecific gravity of the acid of nitre ſent over by Dr. Harriſon was 1,35.

desire he has confined himself to a light farinaceous diet, and feels pretty easy at his stomach. He has taken the medicine regularly, and it occasions neither pain nor sickness. Pulse, belly, and urine, regular. Let the dose of the nitric acid be gradually and cautiously increased, till it occasion some inconvenience. Continue the tincture of opium.

℞. Elect. e Senn. ℥ij. Pulv. Jalap. ʒss. m. f. Elect. de quo glutiat quantitatem nucis moschatæ mane, si alvus astricta sit, et pro re nata, *repetatur* portio idonea.

Thursday, May 8. On Thursday afternoon he increased his dose from 120 to 130 drops. In a few minutes afterwards he fell down in a fit, which was attended with convulsions, and an abolition of sense, for nearly an hour. Since then he has only taken 120 drops. They give him no uneasiness or pain. Yesterday and to-day the drops have occasioned only a small eructation of wind. Before Thursday he never took them without belching air several times. Upon recovering from his fit, he declared that a nail had escaped

from

from his ſtomach, and that he was ſenſible of its progreſſive motion towards the *anus*. Yeſterday he felt a great deal of pain in the lower part of his body, for ſeveral hours, which went away on his voiding one of the nails by ſtool. It is very rough and uneven, with ſeveral deep holes in various places. The point, with about one-ſixth of an inch from the ſmall end, is quite conſumed, and the head is alſo much waſted. His ſtomach is now very eaſy, and he feels none of the pricking pains that were formerly ſo troubleſome upon the ſlighteſt motion.

May 10. Since Saturday afternoon he has not been troubled with wind after taking the nitric acid, nor has he felt the ſmalleſt pricking in his ſtomach. In proportion as theſe ſymptoms diſappeared, the acid has produced more powerful effects. The third doſe on Sunday was followed by ſuch a violent and continual hiccough, that he could get little ſleep or reſt, and was obliged to walk about the greateſt part of the night. Yeſterday he was much eaſier, and to-day there is ſtill leſs of the hiccough. He has diſcontinued the acid ſince Sunday at noon, and is deſired not to take any more, without further orders. His

appetite is unimpaired, but he has not indulged much in ſolid diet. Pulſe, body, and urine, natural.

Capiat gutt. x. T. Opii puri ex quovis vehiculo idoneo ter, quater, vel ſæpius, ſi ſit neceſſe, de die et noćte.

May 13. His hiccough is entirely gone; he thinks himſelf quite recovered, and has been at work ſeveral days.

May 20. Though the greateſt attention has been paid to his *fæces* ſince the accident, he has not diſcovered any appearance of the other nail; nor has he felt the ſmalleſt uneaſineſs in his ſtomach or bowels from the time that the hiccough left him.

June 30. He has enjoyed an uninterrupted ſtate of good health ever ſince the laſt report. Nothing has been ſeen of the nail, nor has he felt any uneaſineſs from it.

May 5, 1795.

The whole quantity of diluted nitric acid taken was as follows.

On Tueſday,—ʒvij. at four times.
Wedneſday,—℥iſs. at ſix doſes.
Thurſday,—℥iſs. and twenty drops, at ditto.
Friday,

Friday,—℥iſs. and twenty drops, at ſix doſes.
Saturday,—℥iſs. ——————— at ditto.
Sunday,—ʒvj. at three doſes.

In all he ſwallowed ſeven ounces, five drams, and twenty drops, of the medicine.

When I was conſulted in the caſe of George Hall, I found myſelf much at a loſs for a method of treatment that promiſed to be ſucceſsful, without injuring the ſtomach or ſome other part of the alimentary tube. The ſize and pointed form of the nails deterred me from every attempt to remove them by vomits, or purgative medicines. To increaſe or diſturb the actions of the firſt paſſage ſeemed to me extremely dangerous, ſo long as theſe foreign bodies were lodged any where in the ſtomach, or inteſtinal canal. For, on a careful examination of ſimilar nails, it appeared to me, that their ſharp points were more likely to be forced into the coats of theſe delicate organs, than expelled from them by violent means. Every endeavour of this kind therefore appeared to be attended with ſo much uncertainty and danger, that I was diſcouraged from the trial; nor did I expect more ſucceſs from oily and mucilaginous

medicines.

medicines. It occurred to me that a cure might be undertaken by chemical agents, with leſs hazard to the patient, and greater proſpect of ſucceſs, than by any other remedies. Impreſſed with this idea, I made choice of the nitric acid for the purpoſe; and, from the reſult of this experiment, I am inclined to recommend it, in ſimilar caſes, to the attention of medical practitioners. Experience has proved that diluted nitric acid may be taken into the ſtomach, and repeated in certain doſes, without any detriment to the human frame; but, I was of opinion, that here it might be adminiſtered in greater quantities, becauſe I conceived that its proper action as an acid would be reſtrained and altered by its chemical union with the particles of iron in the patient's ſtomach. And in this I am inclined to believe my opinion was well founded; for during the firſt three days the medicine never produced any violent ſymptoms. Eructations of an elaſtic fluid were the only conſequence; and this I aſſume as a ſtrong proof that a combination was then forming in the ſtomach, between the acid and nails. For whenever theſe ſubſtances are mixed together out of the body, a ſeparation of nitrous,

and

and perhaps of azotic gas, never fails to take place, which continues to be extricated ſo long as they act upon each other. In this manner I conclude the copious eructations were produced on exhibiting the ſolvent, till, by taking an increaſed quantity, he became afflicted with convulſions, and, in this ſtate, protruded the fragment of one nail into the inteſtines. From this period, the evolution of air was leſs conſiderable, and the effects of the acid more powerful. This may be collected from the reports, and affords another argument, that the acid actually combined with the iron; for it is an eſtabliſhed fact, that the operation of acid bodies is weakened by chemical union. In confirmation of this opinion, I might adduce many compound ſalts in the materia medica; but the fact is ſo well eſtabliſhed, that I think it unneceſſary to enter further into the ſubject. But probably the great diminution of bulk in the nail that was voided, and the patient's having felt no ſubſequent uneaſineſs, will appear to afford the moſt complete evidence that the other nail was diſſolved in the ſtomach. Such a combination, according to the laws of chemiſtry, neceſſarily involves the complete loſs of ag-

gregation in the nail, and the production of a new compound.

That nitrated iron would be the refult of this operation ftruck me forcibly, when I firft determined on the mode of treatment, and increafed my embarraffments; for, as I was unacquainted with the operation of this fubftance on the nerves of the ftomach, I was afraid it might be attended with pernicious confequences. To guard againft thefe, I adminiftered the firft dofe myfelf, and charged the patient to apply to me for directions, provided he afterwards experienced any violent or new fymptom, from taking the mixture. With thefe cautions, which were repeated at every fubfequent vifit, I was obliged, from his refidence in the country, to confide to himfelf the immediate management of his cafe; and he, anxious to obtain a fpeedy cure, continued the ufual quantity after hiccough had fupervened; and, from my permitting him at a former period to increafe the nitric acid in a gradual manner, he imprudently ventured to take ten additional drops of it at the next dofe.

To this inattention I impute the epileptic paroxyfm, and alfo the fingultus under which he

he laboured ſeveral days after the acid had been diſcontinued, and the original complaint removed. Had he been more cautious, I flatter myſelf that a cure would have been obtained, without the occurrence of any unpleaſant ſymptom.

Iron has a diſpoſition to unite with moſt acids; and therefore, it may appear a little extraordinary that I ſhould prefer the nitric acid before ſome others, that are known to produce harmleſs combinations with this metal. The vitriolic acid has the moſt powerful attraction for iron, and forms with it a ſubſtance well known in medicine and the arts; but this compound, inſtead of diffuſing itſelf ſpeedily through the incumbent fluid, and thereby giving an opportunity for the action of freſh particles of the acid, reſts upon the iron like a cruſt or film; and thus defends it, in a great meaſure, from the further action of ſolvents. I believe the nitric will be found to act more briſkly upon iron than any other acid, and to conſtitute with it a ſaline compound, that has a greater diſpoſition to diffuſe itſelf through the ſurrounding vehicle, than any other preparation of this metal. A few comparative

trials lately inſtituted with different acids confirm this opinion, and encourage me to give it a decided preference on ſimilar occaſions. But, as theſe experiments are not yet ready for publication, they ſhall be made the ſubject of another eſſay.

For theſe reaſons I was induced to prefer the nitric acid to every other ſolvent, and the event of this trial ſeems to juſtify my choice; and as my only intention in relating this caſe was a deſire to be uſeful, I ſubmit the ſtatement to an indulgent public, in the hope that it may prove ſerviceable to others.

Practical writers have recorded numerous inſtances of metallic bodies being ſwallowed, and occaſioning to the ſufferers no ſmall degree of uneaſineſs and alarm. To be enabled to moderate them on rational grounds muſt afford the higheſt gratification to a benevolent phyſician; and if the practice recommended in this paper, be found to ſucceed on further trial, it may encourage an attempt to remove other offending matters, by the operation of chemical agents. Pins, needles, &c. and coins of gold, ſilver, and copper, of various ſizes, have often remained in the ſtomach for a great length of time; and, in ſome inſtances,

 their

their retention has occaſioned very diſtreſſing ſymptoms, terminating in fatal conſequences. In ſuch caſes, I perceive no objection to a prudent endeavour being made to diſſolve any of them, when their removal cannot be ſafely confided to other medicines, or, when the trial has not been productive of the wiſhed-for relief.

When we reſolve to adminiſter an acid with this intention, we muſt be determined in our choice by the nature of the metallic matter. For the attraction between acids and metals preſents ſuch a variety of intereſting particulars, that to enumerate them here would ſeduce me beyond the limits of a ſingle eſſay, and lead to an inquiry, which I conceive does not properly belong to *a medical* diſſertation.

ARTICLE XVII.

Account of a Case of Scirrhous Pylorus.

[In a Letter from Dr. J. E. HARRISON, of PHILADELPHIA, to Dr. NATH. HULME.]

Read APRIL 18, 1796.

SIR, *Philadelphia, Nov.* 13, 1795.

THE following appearing to me to be an extraordinary case, I have sent it to you to be presented to the Medical Society of London.

I am your most obedient servant,

J. E. HARRISON.

MRS. BOWYER, of this city, aged 57, had been afflicted above a year with cardialgia, flatulencies, a slow fever, and frequent vomitings. She was not thirsty, her body was open,

open, pulſe ſlow but regular, her tongue ſomewhat white, and towards morning dry.

Sept. 29, 1795. I directed her to take at bed-time four grains of James's powder, which producing no ſenſible effect, was afterwards increaſed to ſix grains, and continued regularly until the 8th of October, but without any advantage to her. As ſhe laboured under great debility, I then directed a tonic medicine, conſiſting of vitriolated iron, myrrh, and tincture of bark; and, as ſhe generally brought up after her nouriſhment, which was chiefly water-gruel, a quantity of porraceous bile, I adviſed an emetic of ipecacuan, which operated moderately.

October 12. She was ordered to take 3 gr. mercur. dulcis, with 10 gr. of rhubarb, which producing no effect, was repeated the next day ſomewhat ſtronger, but without effect, being brought up by vomiting a few hours after taking it. To allay this laſt ſymptom, a ſolution of conſerve of roſes, with the addition of vitriolic acid and opium, was alſo tried, but in vain.

After this ſhe became much reduced, living entirely on water-gruel. One grain of vitriolum cœruleum was taken in a pill, but

ſhortly after rejected with ſome ſeeds of water-melon, ſwallowed the preceding Auguſt. This occurred on the 20th of October. Imagining that I now perceived an hardneſs of the pylorus, I directed a dram of ung. hydrarg. fort. to be rubbed every night on the region of the ſtomach, and, for the purpoſe of nouriſhment, glyſters of mutton broth to be given three or four times in the day, which ſeemed to be beneficial to her, as her pulſe became ſtronger. In this ſtate ſhe continued vomiting up the ſeeds of melons and grapes, uſing no medicine but the liquor. cornu cervi to relieve cardialgia and flatulency, and opium to procure ſleep. By a ſhameful neglect of her attendants, the nouriſhing glyſters, which were her ſole ſupport, were not regularly given. Delirium, from time to time, ſupervened, and the bilious vomiting continued. In this manner, with the addition of an aphthous ſtate of the tongue, ſhe remained until the 7th of November, when ſhe died.

The next morning I opened the body in the preſence of ſeveral medical gentlemen. The heart and lungs were perfectly ſound, the ſtomach appeared much enlarged and diſtended with flatus, containing alſo a quantity of

of fœtid ropy matter. The pylorus was ſcirrhous, and the paſſage into the duodenum ſcarcely pervious to a gooſe-quill. In that paſſage two damſon-ſtones were impacted, ſo as to cloſe it. The liver ſeemed ſound, but in the *veſica fellea* was a gall-ſtone of the ſize of a mulberry. The pancreas was enlarged, and the meſenteric glands indurated. The inteſtines appeared in their natural ſtate.

Did not the long continued practice of ſwallowing fruit-ſtones lay the foundation of this complaint in advanced years?

ARTICLE

ARTICLE XVIII.

A Case of Fistula in Ano, from an uncommon Cause.

By E. HARRISON, M. D. &c. &c.

Read June 9, 1796.

On the 25th of June 1793, I was desired to give my opinion in the case of Mr. Baldock, a carpenter, aged about 40 years, who had for several months been troubled, as he said, with a fistulous ulcer at the back part of the fundament, a little above the *sphincter ani.* Notwithstanding the inflammation and increased thickness in consequence of it, I could pass the probe in an ascending manner towards the rectum, upwards of an inch, with great ease. Here the sinus appeared to terminate; nor could I get the probe any further, although I made repeated efforts to push it into the intestine, with which I suspected

pected a communication. Having put the patient to ſome pain, I deſiſted from further trial, and deſired him to examine his *fæces* to ſee whether they were mixed or ſtreaked with purulent matter. The next ſtool aſcertained the exiſtence of pus, and determined me to make another attempt to find a paſſage into the rectum. When I had again reached the place, where the probe formerly ſtopped, I urged it with a greater effort, and the obſtruction giving way, the inſtrument paſſed without further trouble. I was ſenſible when it penetrated the reſiſting body, which at the time appeared to me like the *os unguis* of the ethmoïd bone. This I mentioned to the gentlemen preſent, and afterwards we all perceived the grating againſt an hard brittle ſubſtance as the probe was paſſing into, or withdrawing from the rectum, with which a communication was then open. In a few days the operation for a fiſtula was performed in the uſual manner, a little above the *ſphincter ani*; and, upon taking away the dreſſings on the third day after, we were ſurpriſed to find the core of an apple or pear among them. This brought to my recollection the circumſtance that occurred on examining the wound previouſly

previoufly to the operation, and which I could not account for at that time. After wafhing the core we could clearly perceive where it was broken by the probe in its paffage to the rectum. The wound healed in a fhort time, and the patient has ever fince enjoyed a good ftate of health. When I inquired more particularly into what could occafion fuch an unufual *phænomenon*, he replied, that about eight months before I was confulted, he remembered to have eaten two or three apples, but could not recollect whether he fwallowed the cores or not. He was confident that he had never tafted either apples or pears at any fubfequent period. The diforder had continued about thirteen weeks, when the operation was performed; and therefore originated in a caufe that muft have exifted at leaft eight months before.

Many difeafes are occafioned by taking into the ftomach matters that efcape the folvent powers of the gaftric juice. Thefe by acting as nuclei, or, by ftimulating the inteftines in their progrefs towards the *anus*, have laid the foundation of various complaints, which afterwards baffle the fkill, and refift the practice, of the moft able phyficians. Authors have recorded

recorded ſuch a long catalogue of theſe caſes, that it may appear unneceſſary to add another to the liſt; but, as far as my reading enables me to judge, no one has enumerated the cores of apples or pears among the cauſes of *fiſtula in ano*; and as it is an opinion with many, that the kernels of fruit contribute materially towards digeſtion, it appears of conſequence to publiſh every fact that is calculated to remove this unhappy prejudice.

That inflammation and ſuppuration of the inteſtines may ariſe from the mechanical ſtimulus of an apple-core, will be readily admitted; nor ſhall we find more difficulty in accounting for its acting as a cauſe of fiſtula in this caſe. After being received into the ſtomach, it would be carried with the other indigeſtible matters into the inteſtines, where the periſtaltic motion would gradually urge it towards the *anus*. During this progreſs, the *fæces* acquire a greater conſiſtency, and, before expulſion, they often become ſo hard and firm as to require no ſmall ſtraining to force them through the ring. Such ſtrong efforts are ſufficient to impel any hard and rugged body againſt the rectum, and eſpecially where it is ſurrounded by the *ſphincter*

ani,

ani, with force enough to bruiſe and enter the ſubſtance of the inteſtine. When once lodged there, the ordinary inclinations to go to ſtool, and irritations from the offending ſubſtance will be more likely to thruſt it further into the coats of the gut, than change its direction towards the *anus*. Inflammation and ſuppuration, the natural conſequences of ſuch a proceſs, when they attack the lower part of this inteſtine, are commonly followed by ſinous openings about the fundament. In this manner I account for the origin of *fiſtula in ano* in the preſent caſe; and heartily wiſh the recital of it may operate to diſcourage the too prevalent cuſtom of ſwallowing the indigeſtible cores, or kernels of fruit, along with their eſculent and ſoluble parts.

ARTICLE XIX.

The Cases of two Children who received the Small-Pox by Inoculation without previous Inflammation round the Incision, with a few Observations on that Disease.

By THOMAS WHATELY, Surgeon.

Read August 1, 1796.

On Monday the 16th of January 1796, I inoculated two children of Mr. Dennison's, butcher, in Gray's-Inn Lane Road; the one four years old, the other fourteen months, and at the breast; both were inoculated in one arm with a separate lancet dipped in variolous matter the day before. The arm of the eldest inflamed at the usual time—that of the youngest not shewing any appearance of inflammation, I concluded the child had not taken the infection; on the ninth day, however, she sickened with the eruptive fever, and on the eleventh a very moderate number of the pustules appeared on the body, and about

about twenty in the face. The eldeſt had the eruptive fever, and about the ſame number of puſtules, on the ſame days as the youngeſt. The inciſion on the arm of the elder inflamed as uſual; but there was only a very ſmall dry and browniſh ſcale or ſcab, on the inoculated part of the younger, about the ſize of a very ſmall pin's head, unattended by the ſlighteſt inflammation from the day ſhe was inoculated until the fourteenth day, when the eruptions in both children were completed, and advancing faſt to maturity. I ſaw the arm in the above ſtate on Saturday, the thirteenth day from the inoculation, and the third of the eruption. Dr. Woodville ſaw it alſo in the ſame ſtate on that day, but the next morning there appeared a ſmall inflamed puſtule, as it were, on the inoculated part, which went on to maturation with the others. The pock turned in both the children on the ſeventh and eighth days of the eruption, and both recovered at the ſame time, without confinement. It may be proper to remark, that Mr. Denniſon's houſe is nearly detached from other inhabited houſes, and that the ſmall-pox was not at that time in any part of the neighbourhood where they have

have a communication; and as the child was at the breaſt, Mrs. Denniſon is the more certain that ſhe had not been near any one who had that diſeaſe.

In the year 1785, I inoculated at the ſame time two children of Mr. Snow's, then living in Baſinghall Street. In one the arm inflamed, and the child went through the diſeaſe in the uſual manner. In the other the arm had exactly the ſame appearance as Mr. Denniſon's youngeſt, except that no puſtule appeared on the inoculated part, nor was there the ſmalleſt inflammation on the arm through the whole progreſs of the diſeaſe. This child had the eruptive fever, and ſubſequent puſtules, only one day later than the child whoſe arm inflamed, and in all reſpects went through the diſeaſe as children uſually do who have the ſmall-pox favourably from inoculation, having only ten or twelve puſtules in the face. In this caſe alſo the ſmall-pox was not in the neighbourhood, nor were the children inoculated from any apprehenſion of their having been expoſed to variolous infection.

From theſe two caſes I think it may be ſafely concluded, that there is a poſſibility

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of the ſmall-pox being communicated by inoculation, without any inflammation being excited in the part through which the variolous matter was received into the conſtitution; and although I am well aware that no great practical uſe can be made of this diſcovery, it is however of ſome importance that we ſhould notice every different variety in the operations of nature. Something analogous to this I have ſeveral times ſeen in the venereal diſeaſe, where buboes have appeared without external ſore or gonorrhœa *; and I have ſeen ſome caſes when it ſeemed pretty certain that venereal virus had entered the ſyſtem without the leaſt appearance of previous bubo, or any topical affection †.—And though different poiſons have their different actions and effects on the body, either when applied

* Mr. J. Hunter has noticed ſimilar caſes in his Treatiſe on the Venereal Diſeaſe; his words are in his account of bubo: "The firſt and moſt ſimple is, where the matter either of a gonorrhœa or chancre has only been applied to ſome ſound ſurface, without having produced *any local effect on the part*, but has been abſorbed immediately upon its application.—Inſtances of this I have ſeen in men." And afterwards he ſays, "I think, however, I may venture to affirm, that I have ſeen it in women."—Page 256.

† Dr. Swediaur has remarked the ſame in both theſe ways. See Treatiſe on the Venereal Diſeaſe.

externally or when abſorbed, ſome exciting a temporary, and others a more laſting affection, according to the peculiar tendency and effect of each on the human body; yet from the readineſs with which the abſorbents take up many different matters, when applied to their mouths, eſpecially by a cut ſurface, we may readily ſuppoſe that a particle of matter of the ſmall-pox may be carried by the abſorbents into the blood from ſuch a ſurface, without firſt producing topical inflammation, though the latter is the uſual way in which this poiſon acts when applied externally. It will probably be thought of very little conſequence in what way the variolous matter is introduced; but if one method ſhall be found more certain of communicating the diſeaſe, without in the leaſt increaſing its virulence, it will, doubtleſs, be preferred.

Mr. Sutton makes uſe of a puncture, that is, he inſinuates the point of an infected lancet, between the *epidermis* and the true ſkin, ſo as juſt to draw a little blood or ſerous moiſture. Baron Dimſdale introduces the point of a lancet dipped in variolous matter obliquely, between the *cuticula* and *cutis*, ſo as to make the ſmalleſt puncture poſſible, rarely pro-

ducing a drop of blood. It has been my practice for many years to draw the edge of the dipt lancet in a tranfverfe line, in the ufual place of the arm, to the extent of one-eighth or one-fourth of an inch, and fo flightly, that the blood may juft appear in the incifion, and then to wipe the matter from the lancet, either in its dry or frefh ftate, upon the wound. In this way, by taking in a much greater number of the mouths of the lymphatics, inoculation may, I apprehend, be practifed with more certainty of giving the difeafe. I mentioned this fome years fince to a gentleman who has an extenfive practice in this line; and he informs me, that fince he has adopted this method, all his patients have taken the infection by the firft inoculation, though before he was frequently difappointed; nor has he found the diforder more virulent, or any inconvenience from the ulcer afterwards.

ARTICLE XX.

Cafes of Cynanche Trachealis, fuccefsfully treated, with Obfervations on that Difeafe.

By HENRY FIELD, Apothecary, Sec. M. S.

Read October 31, 1796.

The Medical Society having honoured me by their approbation of a former paper on the fubject of *Cynanche trachealis*, I am induced to offer them fome additional obfervations on the fame difeafe, which I am more particularly encouraged to do, by having had the happinefs to fucceed in a few cafes, minutes of which I have preferved; and being alfo defirous of communicating fome remarks on the mode of treatment which I have lately purfued, and which I flatter myfelf may be a means of diminifhing the mortality of that dangerous difeafe.

Since the publication of the fourth volume of the Society's Memoirs, five cafes of croup have

have fallen under my obſervation, four of which have terminated favourably; the particulars of them I ſhall now relate.

CASE I.

I. B. a ſtout healthy boy, of the age of five years, had laboured near a fortnight under ſymptoms of cold, but not in a degree ſufficient to give any alarm to his parents, until Sunday, November 9, 1794; on which day he walked about a mile to the houſe of a relation, where he became feveriſh, and his cough (ſome degree of which had been perceived ſeveral days) increaſed conſiderably, accompanied with a kind of ſound which induced his female relations to ſuppoſe that the hooping-cough was coming on; however he was not at that time ill enough to prevent his walking home in the evening. The next day, Nov. 10, he was in every reſpect much worſe. In the evening, being ſent for, I found him labouring under a conſiderable degree of *pyrexia*, pulſe 140, breathing very quick and laborious, cough frequent, and croup-ſound very audible, throat ſomewhat inflamed, but without ulceration or incruſtation,

tation, tongue white and much furred. Between four and five ounces of blood were immediately taken from his arm, a large blifter was applied to the *ſternum*, confiderably below the feat of the difeafe, and one grain of ipecacuan, with fix drops of tincture of fquill, was directed to be given every fix hours. Nov. 11. He has flept much at intervals, pulfe 140, refpiration fomewhat eafier with lefs found; he has vomited twice, and brought up much vifcid mucus, but has had no ftool, the throat lefs inflamed and free from flough; he fweat much during the night, the blood drawn from the arm was natural in its appearance. The fame medicines were continued, and he has drank plentifully of linfeed tea with honey and lemon juice. Nov. 12. Has vomited feveral times fince yefterday the fame kind of vifcid mucus, refpiration freer, cough frequent, but not accompanied with much noife, pulfe 130, fkin moift, and throat lefs inflamed; he continues to drink freely; having had but one ftool fince yefterday morning, a laxative medicine was ordered, and the other remedies perfifted in, with a fmall diminution of ipecacuan. Nov. 13, The vomiting has ceafed

 fince

ſince yeſterday, reſpiration nearly the ſame, as is likewiſe the cough, with but little of the croup-ſound; an eruption, reſembling the meaſles, appeared on the ſkin this morning. Nov. 14. The meaſles were now full out upon him, reſpiration became eaſy, cough frequent, but free from ſhrillneſs, fever and every other unpleaſant ſymptom abated. From this time every appearance of danger ceaſed, the meaſles ran their uſual courſe, and the patient gradually recovered.

CASE II.

W. A. aged about five years, a weakly delicate boy, was in perfect health until November 12, 1795; in the evening of which day he was ſuddenly attacked with fever, cough, and difficulty in reſpiration. Being immediately requeſted to viſit him, I had no doubt in conſidering his diſeaſe as the *cynanche trachealis*, the croup-ſound being preſent in a conſiderable degree. Four ounces of blood were inſtantly taken from his arm, and the following medicine directed to be given him, viz. ℞. calom. ppt. gr. vj. pulv. antimonial. gr. j. ft. pulvis in iv. chartulas di-

videndus

videndus quarum capiat unam. quartâ quâque horâ. Nov. 13. The patient was almoſt immediately relieved by bleeding, and paſſed an eaſier night, than from the violence of the attack could have been expected; every ſymptom was much abated, and the medicines were continued with the omiſſion of half the quantity of calomel. Nov. 14. No aggravation of the diſeaſe had occurred; on the contrary, from this time the amendment was gradual and progreſſive, and the child in leſs than a week reſtored to health.

CASE III.

S——, a female child, aged 18 months, was attacked with the croup late in the evening of Tueſday, June 21, 1796. The parents having had the misfortune to loſe a child in the ſame diſeaſe about a year before, were preſently aware of the dangerous nature of it, and applied for aſſiſtance that night, when a veſicatory was laid to the pit of the ſtomach, and tartarized antimony exhibited in ſufficient quantity to excite vomiting, proper attention being at the ſame time given to the ſtate of the bowels. I viſited the child for the firſt time about ten the following morning. The

ſymptoms

ſymptoms of the diſeaſe were clearly marked, conſiderable *pyrexia*, cough, difficulty of breathing, and crouping noiſe. Two ounces of blood were immediately drawn from the arm, by which the patient was greatly, and almoſt inſtantly, relieved. Tartarized antimony in doſes of one-eighth of a grain was given every three hours, and the following embrocation directed to be applied to the throat, by means of linen cloths, wetting them ſo frequently as to keep them continually moiſt, viz. ℞. ſpt. æther. vitr. comp. —aq. ammon. acet.—aq. puræ. āā ℥j. M. The whole of this was conſumed in the ſpace of 24 hours: vomiting was excited by the antimony once or twice, and one ſtool procured. A gradual mitigation of the diſeaſe continued until the evening of the next day (Thurſday, 23d June), when a conſiderable exacerbation of ſymptoms took place, the crouping cough and difficulty of reſpiration greatly increaſed. Three leeches were then applied to the *ſternum*, the antimonial given in an emetic doſe, and the other remedies continued. Theſe means were attended with the deſired ſucceſs, an alleviation of the diſeaſe was again obtained, and the next day (Friday)

(Friday) ſhe appeared to be in ſo fair a way of recovery, that the embrocation and antimonial medicine in ſmall doſes were directed to be continued as at firſt. On Saturday there was a conſiderable pyrexia and heat, and, at the ſame time, much languor; ſhe coughed frequently with a ſlight degree of crouping: having had no ſtool ſince Thurſday, an opening medicine was adminiſtered in addition to the former plan of treatment, which was ſtill perſiſted in. Beef-tea was now allowed, her diet having been hitherto confined to barley-water, milk, and ſimple diluents only. After this time nothing occurred deſerving particular notice; the diſeaſe gave way gradually, although ſlowly, it being ten or twelve days before the cough entirely left her.

CASE IV.

—— S. a ſiſter of the laſt-mentioned patient, about eight years of age, was attacked on Monday 27th of June, with the ſame diſeaſe; the ſymptoms in this caſe were ſlight compared with the former, but, neverthleſs, quite ſufficient to aſcertain it,

it, even if it had not followed ſo ſoon after the other, and in the ſame family; and indeed, it is more than probable, that the very early application of remedies, by arreſting the progreſs of the diſeaſe in the very firſt ſtage, was no ſmall cauſe of its mildneſs. Veneſection was directly performed, but the quantity of blood procured that way being ſmall, and judged inſufficient to anſwer the purpoſe propoſed, it was followed by the application of ſix leeches, a quarter of a grain of tarizarized antimony was given every four hours, and an embrocation of the ſame nature as the former, but ſtronger, was made uſe of, and in the ſame manner, viz. ℞. Aq. Ammon. acet. ℥ij. ſp^t. æther. vitr. comp. ℥j. M. The patient was ſo much recovered by the next day, that no other alteration was judged neceſſary in the remedies, but the addition of a little rhubarb as a gentle laxative. The ſame plan was purſued two or three days longer, and a perfect cure enſued.

It will be proper here to take notice of an objection which may be made to the firſt of theſe caſes, that being followed ſo immediately by the meaſles, it might be only a higher degree of the catarrhal affection which conſtantly

conſtantly precedes that diſeaſe, and not a true *cynanche trachealis*. In anſwer to which, I would obſerve, that although thoſe catarrhal ſymptoms do conſtantly appear for ſome days previous to the morbillous eruption, yet that their firſt attack is but ſlight, and that they gradually increaſe until the time of the eruption; at which time, and not before, they attain their height. An attentive obſervation of the above caſe will ſhew, in oppoſition to this opinion, that the ſymptoms of croup were at the worſt at leaſt three days before the ſmalleſt appearance of the meaſles, and that they were in fact ſo much diminiſhed, as to be almoſt removed before that period. This caſe muſt certainly be conſidered as ſomewhat complicated; I am, nevertheleſs, fully ſatisfied, that that ſtate of tracheal inflammation characteriſtic of *cynanche trachealis* was preſent, and that it is therefore juſtly entitled to be claſſed with that diſeaſe.

Previouſly to entering upon thoſe practical obſervations which are deſigned to accompany theſe caſes, it will not, I truſt, be deemed totally unintereſting, to premiſe a few remarks on the different kinds of diſeaſe which have been known under the general name

name of croup, and alſo on the nature of the malady as to contagion.

It has been ſtated by authors, that there are two kinds of this diſeaſe, the one ſpaſmodic, and the other inflammatory. Of the propriety of this diſtinction, I am at preſent well ſatisfied, and am only concerned, that two diſeaſes, ſo extremely different in their cauſes, and conſequently in their mode of treatment, ſhould be confounded under one and the ſame title; a circumſtance which has an evident tendency to miſlead the practitioner, and which has undoubtedly been the reaſon why we find ſuch very oppoſite modes of cure recommended by different writers, and each with a confidence derived from ſome degree of experience.

That the ſymptoms of the two diſeaſes bear conſiderable reſemblance, will readily be allowed; nevertheleſs, there are evidences of difference, I think, ſufficiently ſtrong, to enable an attentive perſon to diſcriminate them. Theſe marks of diſtinction I ſhall endeavour now to deſcribe, and to give them the greater effect, ſhall contraſt the one with the other.

The ſpaſmodic croup always attacks ſuddenly,

denly, and uſually in the night. The attack of the inflammatory croup is ſometimes equally ſudden, but more generally gradual, being preceded a few days by ſlight feveriſh ſymptoms, and a teaſing ſhort cough, not however ſufficiently important to create the ſmalleſt uneaſineſs in the friends of the patient. The ſpaſmodic croup often intermits, and in theſe intervals, both the reſpiration and the cough, if any exiſts, are free from its uſual characteriſtic ſound; the inflammatory, on the contrary, when once completely formed, never intermits ſo as entirely to loſe its diſtinguiſhing mark, particularly in coughing; add to which, the heat, frequency of pulſe, and other ſymptoms of *pyrexia*, are found in the latter in much greater degree than in the former. Dr. Ruſh * has mentioned ſeveral other marks of difference, but as they apply chiefly to the effect of remedies, and to the later ſtages of the diſeaſe, it is not judged neceſſary to inſiſt upon them here, it being in the firſt attack of this malady that a due diſcrimination becomes ſo ex-

* Vide Medical Inquiries, by B. Ruſh, M. D. vol. i. p. 141.

tremely

tremely important, that being the time in which the application of powerful and decisive remedies is moſt conducive to the relief of the afflicted, a delay of a few hours being frequently the cauſe of irreparable injury.

Every author, that I am at preſent acquainted with, has denied this diſeaſe to be of an infectious nature. In a former * paper on this ſubject, I have taken the liberty to ſuggeſt my doubts as to this opinion being well founded, for which I have there aſſigned reaſons; ſince that time my particular attention has been given to that point, and I am ſorry to add, that increaſed experience has tended to confirm me more ſtrongly in the opinion, that the true *cynanche trachealis* is a contagious diſeaſe. I have ſince met with repeated inſtances of its occurring in the ſame family, and that after ſuch an interval as we moſt uſually find contagious diſeaſes to require in order to produce their morbid effects, namely, from ſix to ten days: whether the above opinion be well or ill founded, I would ſtrongly recommend to practitioners to avoid

* Vide Memoirs of the Medical Society of London, vol. iv. p. 151.

the

the danger of communication by requeſting that every child may be removed, if poſſible, from the ſame houſe: or, at all events, be prevented entering or coming near to the ſick chamber.

It has been ſaid that this diſeaſe has occaſionally been met with in adults; when this has been the caſe, I am very much diſpoſed to think, that it was not the inflammatory, but the ſpaſmodic, croup; in confirmation of which opinion, I have never heard of its having proved fatal to them.

The firſt and moſt important curative indication in the treatment of the true or inflammatory croup, (for to this our preſent obſervations will be confined) is to diminiſh the quantity of blood. In the paper on this diſeaſe, which the Society have done me the honour to publiſh in their Memoirs, I gave a caution againſt the uſe of the lancet, from an apprehenſion that the early debility, which had been obſerved to come on, would render general bleeding an unſafe and improper practice, and that our evacuation of blood ſhould be only topical by means of leeches; which, however, was adviſed to be freely and vigorouſly purſued. Since that time I have had

opportunities of obſerving, that the lancet may not only be ſafely, but even advantageouſly, employed, and that it ſhould never therefore be omitted, when medical advice is required in the earlier ſtages of the diſeaſe, from two to four or five ounces of blood being taken away, according to the age and ſtrength of the patient; much caution is nevertheleſs requiſite in repeating this operation. If any abatement of ſymptoms takes place after the firſt bleeding, which frequently happens, I ſhould certainly think it unneceſſary to repeat that evacuation; but if an evident exacerbation ſhould afterwards come on, it will be generally proper to do ſo: in this caſe a topical diſcharge, by means of leeches, appears to me much to be preferred to a general one. Allow me here to give a caution relative to the prognoſis in this diſeaſe. The means now recommended in the early ſtage of it, being frequently followed by a conſiderable and very flattering appearance of recovery, the practitioner may be ſo far deceived as to be encouraged himſelf, and, in conſequence, to encourage the friends of the patient, with great expectation of a favourable iſſue; but in this he cannot be too much on

his guard, nor ſhould he conſider the danger to be paſt, until three or four days have elapſed without a return of ſymptoms, by which time the patient will have made conſiderable progreſs towards recovery.

Our next ſubject will be an inquiry into the uſe of bliſtering in the cure of this diſeaſe. I have, on a former occaſion *, taken notice of Dr. Home's objection to the early application of bliſters to the affected parts, as liable to do injury by their immediate ſtimulus. I am well ſatisfied, from later obſervations, that this objection is well founded, although ſufficient attention does not ſeem in general to have been given to it; and whoever conſiders the extreme vicinity of the diſeaſed part to the external ſurface of the throat, muſt ſurely coincide with me in opinion, that the application of a bliſter immediately to the part muſt act as a local ſtimulus, and therefore muſt increaſe, rather than diminiſh inflammation. Veſicatories ſhould, for theſe reaſons, be either entirely omitted, or elſe applied only to diſtant parts. Whether they will in the latter caſe be of any ſervice,

* Vide Med. Soc. Memoirs, vol. iv. p. 159.

I am at preſent unable to aſcertain. Bliſters were applied in only two of the preſent caſes, and in thoſe there is not the ſmalleſt reaſon to ſuppoſe, that they contributed in any degree to the cure: in the laſt of the two the bliſter ſcarcely took any ſenſible effect on the ſkin.

The ſituation of the trachea with reſpect to the external integuments, which I have above alluded to, ſuggeſted to me an idea that refrigerating, and alſo ſedative remedies, might be uſed externally with advantage. In the third and fourth caſes now recited, I made trial of an embrocation with that intention; how far the ſucceſs of thoſe caſes is to be attributed to this remedy, it is impoſſible to ſay; it is ſufficient, however, to enable me to recommend this and ſimilar applications to further trial, and alſo emollient and ſedative cataplaſms and fomentations. The occaſional uſe of emetics ſo as to produce their full effect, and their conſtant uſe ſo as to excite nauſea, as far as has hitherto appeared, ſeems to be attended with good conſequences. The body ſhould be kept at all times in a ſoluble ſtate, but any conſiderable evacuation by ſtool is better

ter avoided, its immediate tendency being to debilitate, without apparent advantage, in relieving the patient. The warm bath, either partial or general, may be employed with probability of benefit.

ARTICLE XXI.

Description of a particular Species of Eryfipelas.

CASE I.

An Eryfipelatous Inflammation, in a Child only twelve Days old, which proved fatal; and appeared, on Diffection, to be connected with a morbid State of the Stomach, refembling that defcribed by Mr. Hunter, as the Effect of the Gaftric Juice.

By THOMAS WALSHMAN, F. M. S.

Read April 21, 1794.

An account of this difeafe, and of fome other infantile ones, I had thoughts of laying before the public fome years ago, but, upon Dr. Underwood's Treatife appearing, I gave up my intention.—However, as the Doctor has only very curforily defcribed this difeafe, and has not given the appearances upon diffection, thefe

theſe obſervations may probably not be deemed unworthy of your attention.

CASE.

N. N. a fine healthy female child when born, March 3, 1785, the third day of her birth, had ſeveral ſmall puſtules on different parts of her body, which ſoon ſuppurated. One of them, however, ſituated on the back part of the neck, accompanied with more inflammation than the reſt, terminated in an abſceſs, which broke the 9th of March, and a ſmall quantity of ill-conditioned matter eſcaped from a very ſmall aperture.

On the 10th, ſeveral ſimilar puſtules appeared. On the 12th there was great oppreſſion of breathing, and a very weak pulſe, hardly to be felt—the child was in a very inſenſible ſtate.

The inflammation accompanying the abſceſs, ſoon became eryſipelatous, and extended from the puſtule round the neck, to the ſternum; a quantity of bloody ichorous matter, mixed with particles of oil, oozed out.

There was another cavity communicating with the ſame abſceſs, which bent its courſe downwards as far as the ſcapula. The teguments covering this ulcer were very painful on being touched, and of a duſky red, almoſt approaching a livid or blackiſh hue.

I now adminiſtered bark with cordials, as much as the ſtomach would bear, and fomented the part affected with the common fomentation, to which was added camphorated ſpirit; and, after every fomentation, a bread and milk cataplaſm was applied. 13th, The inflammation and tumefaction abated, but the diſcharge from the ulcer remained ichorous, and in great quantity. The inſenſibility was nearly removed—remedies continued. 14th, Inflammation ſtill abated, the diſcharge diminiſhed, and was more ſimilar to pus—and from the 15th to the 18th, the ſymptoms continued to abate, and good pus was diſcharged from the ulcer; the remedies were continued all this time.

From the 18th to the 22d, the ſymptoms remained much the ſame; the ulcer in the neck healed, but the eryſipelatous inflammation of the ſkin ſpread; her ſtools became too frequent, and of a mucilaginous conſiſtence.

Pulv.

Pulv. rhabarb. cum magnef. & pulv. aromat. were now directed, occafionally continuing the cort. peruv. with conf. arom. and tinct. opii camph. and to the fpreading inflammation the faturnine lotion with camphorated fpirit, was applied.

The 24th, the ulcer on the fhoulder healed, but a fmall aperture near the clavicle, difcharged a little pus. The eryfipelatous inflammation continued to fpread, extending over both fhoulders, arms, &c. Cortex peruv. conf. aromat. & lotio faturnin. were continued.

26th, Inflammation on the fkin continued to fpread, but not fo violent as to blifter the cuticle. Remedies continued. 28th. Inflammation fpread over the *nates* and groins, and one thigh; wherever it had been it left the cuticle in a furfuraceous ftate. On the left fhoulder, where the cavity of the ulcers were, the teguments were thrown into wrinkles or folds, and were in that ftate united. The ulcer anteriorly continued to difcharge; the countenance became now pallid, with an expreffion of much anxiety in it; fhe moaned much, as if in great pain. The ftools were numerous, watery, and of a greenifh colour. She appeared to have a

craving for food, but when any was offered, a naufea was induced which rejected it; this occurred the laft two days; and fhe flept very little. Pulv. rhabar. cum magnes alb. & pulv. aromat. rep^r. alfo the miftur. cretac. cum tinct. opii camphor. to be given after every loofe ftool, and the cortex cum opio et conf. aromat. continued.

30th. The right thigh, leg, and foot, were much inflamed, fwelled, and hard to the touch, fimilar to the *adeps* in a dead body; the inflammation now attacked the left thigh a little, and the backs of both hands, but the left moft feverely; the appetite as yefterday, ftools not fo numerous nor fo green, fleep but indifferent; the remedies were continued.

April 1. The inflammation attacked the *pudendum*, thighs, and legs, alfo the fcalp and fides of the face, and an abfcefs formed on the cubit, and appeared as if ready to break. Laft night the refpiration became quick; there was frequent moaning, intermixed with fhrieks, during the night; fhe naufeated every thing offered, both food and medicine; the ftools increafed, and were ftill of a porraceous colour; the belly was hard and inflated, and the urine yellow.

April

April 3. She lay all yeſterday in great pain, which appeared from her moaning and efforts to ſhriek, and all the afternoon ſhe vomited up a porráceous and ſlimy fluid. She took no food; whenever any was offered it excited a vomiting of this ſlimy fluid; in this way ſhe continued till about a quarter before ten laſt night, when being quite exhauſted, death releaſed her.

April 6, 1785. At three o'clock in the afternoon I examined the body. Upon opening the cavity of the abdomen about half a pint of a purulent browniſh coloured and very fœtid fluid iſſued; the ſmall inteſtines and colon were healthy, but much diſtended with wind. The ſtomach was much diſeaſed, that portion of it from the *cardia* almoſt to the *pylorus*, was very much diſcoloured, and put on a gangrenous appearance; its coats ſeparated by the ſlighteſt touch, ſo that the contents paſſed into the cavity of the abdomen; it was very much diſtended with the food taken for the laſt two or three days, which conſiſted of ſavory biſcuits moiſtened in tea; this was changed to a greeniſh colour ſimilar to that fluid ſhe vomited up before death. The liver was larger than

than usual for a child of her age, its colour on the superior surface was different in different parts of it, the part near the suspensory ligament had a duskish or blackish complexion, whilst the inferior part of it near its edge was of a purplish hue; on cutting into its surface it was perfectly healthy, as were also the gall-bladder, and the viscera of the abdomen and pelvis. The contents of the thorax were perfectly healthy. The skin of the back, nape of the neck, and left scapula, (the parts first attacked with inflammation and abscess) which were now well, adhered to the muscles adjoining, which occasioned the teguments to fall into the wrinkles or folds above mentioned; there was also a quantity of brownish co-coloured serum in the cellular membrane of this part. The muscles situated immediately under the inflamed parts appeared in a healthy state. In the *nates*, the posterior parts of the thighs and legs which had been attacked by inflammation, the *adeps* was very much thickened, and between it and the muscles, was also a quantity of discoloured serum; the muscles here too appeared perfectly healthy.

CASE II.

Having in the former caſe enumerated every little particular circumſtance which daily occurred, in order to give as ample a deſcription as poſſible, in this I ſhall only mention ſuch ſymptoms as are moſt important, and ſuch as eſſentially differed from the former; and theſe two caſes will, I am of opinion, include all the varieties neceſſary for the inveſtigation of this diſeaſe.

September 10, 1785. Mark Simmons, aged four months, a fine healthy boy at the breaſt, inclining to be fat, was, about ſix weeks ago, afflicted with an inflammation of the eryſipelatous kind round the verge of the *anus*, which extended upon the *nates*, at firſt very ſimilar to the aphthous inflammation after it has paſſed through the inteſtinal canal, but here no thruſh appeared; it then ſpread over the back part of the thighs, accompanied with ſmall puſtules ſimilar to thoſe deſcribed in the firſt caſe, which ſuppurated, but never ſeemed perfectly diſtended with pus; in a fortnight's time his face, extremities, and ſcrotum, began to ſwell, as if inflated;

inflated; this continued about a week, and then ſubſided; he was alſo afflicted with a cough, accompanied with a ſecretion of a vaſt quantity of viſcid phlegm, which ſometimes threatened ſuffocation. This diſeaſe was at times attended with hot ſkin, quick pulſe, furred tongue of a browniſh colour; his nights were, for the moſt part, reſtleſs. His bowels throughout the whole diſeaſe were not particularly affected.

September 9. About four o'clock in the morning, he was ſeized with a convulſive fit, which continued five minutes; during it his hands and arms were rigid and cold; he revived, and remained compoſed till ſeven o'clock in the morning, when another ſimilar fit ſeized him, which continued half an hour; after this all voluntary and involuntary action appeared to be totally ſuſpended, ſo that it was difficult to aſcertain life, and when viſible life returned, his countenance was pallid and deathly, the eyelids were nearly ſhut, and the mouth open, pulſe very weak and intermitting, and the extremities cold; at times he ſtruggled hard, his reſpiration was quick, and ſometimes interrupted with a ſhort cough, and, whilſt I was writing this, he died without

either ſigh or groan. At firſt I was doubtful whether he was dead, imagining him to be in that ſtate of collapſe which ſucceeded the ſecond fit, and therefore, after waiting a little while, I made uſe of every means to rouſe him, but in vain.

In this caſe I purſued the plan of cure ſimilar to the former, only varying it according to the diverſity of ſymptoms. I employed the lotio ſaturnin. with ſpir. camphor, and adminiſtered the cortex cum cardiac. and tinct. opii camph. as plentifully as the ſtomach could bear. During the febrile ſymptoms, I occaſionally adminiſtered ſmall doſes of the pulv. antimon.; when the convulſions came on, I had recourſe to the fœtid antiſpaſmodics, and a bliſter on the back; however death ſo ſoon followed, that the effects of medicines could not here be aſcertained. This child died about twelve at noon, on Sept. 10, 1785, and I opened him Sept. 12, at eight in the morning. I found here alſo that portion of the ſtomach near the *cardia* of a reddiſh complexion, and its ſtructure ſimilar to the former ſo changed, that, like white brown paper, it gave way to the ſlighteſt force. The matter contained, which was like panado, eſcaped into the abdomen; the whole of its inſide

inſide was lined with a gelatinous fluid; the inteſtinal canal was otherwiſe healthy, there was rather more *liquor peritonei* than natural, and with it was mixed a ſmall quantity of curdled matter. The liver was much larger than uſual in children of his age, the lower edge of it extended nearly to the ſuperior and poſterior ſpine of the ilium, and its left lobe paſſed over the ſtomach as far as the ſpleen; the gall bladder was of its natural ſize, and rather diſtended with bile; the reſt of the abdominal contents were healthy. In the thorax I found the heart perfectly healthy; the lungs were covered with a diſtinct puſtular appearance, ſimilar to that in the *nates*, only not ſo large, and on cutting into their ſubſtance I found this puſtular appearance every where. There were ſome few puſtules diſtributed upon the *pleura*; this puſtular affection, however, did not appear to intercept the paſſage of air into the lungs, or obſtruct any of the *bronchiæ*, as I could eaſily inflate them; the inflammation which ſurrounded theſe puſtules was eryſipelatous, ſimilar to that ſurrounding the *nates* and thighs. I examined the anterior part of the left thigh, on which a number

of

of the puſtules remained, as well as thoſe on the right, and found the *adeps* ſituated under them more firm, as was mentioned in the other caſe, only with this difference, that in this caſe it was collected in a cluſter-like form, reſembling ſo many ſmall glands. The muſcles under the diſeaſed parts were not affected.

OBSERVATIONS ON THE PRECEDING CASES.

Having now recited two caſes which I thought would afford as much variety as any in my poſſeſſion, I ſhall conclude with a few obſervations. Caſes, like the foundation of a building, if faithfully related, will ſtand the teſt of enduring time. The viciſſitudes occaſioned to matter by the powers of life, afford an immenſe variety; a volume to be read only in the records of ſymptoms, in the peruſal of which the attentive obſerver traces the connexions which point to practice and prognoſtic. But this, as it has been, muſt perhaps be the work of ages; if every one did but contribute his aſſiſtance to the improvement of this the fundamental ſtock, the practice of phyſic would be

be no longer a conjectural branch of ſcience, but would be found to have as immutable principles as geometry itſelf. In the hiſtory of the foregoing diſeaſe I have ſaid nothing of its cauſe, that I could not trace; it began ſuddenly, and at a time when the children were apparently in good health.—The inflammation induced was of the eryſipelatous kind, which at once ſhewed the irritability of the parts and nature of the conſtitution, ſo as to determine me to proceed in the method of cure which I inſtituted. In the firſt caſe the inflammation, whilſt it occupied only the nonvital parts, did not produce any danger; and although it continued to ſpread, yet the healing diſpoſition was preſent, as was evident from thoſe parts which healed. But as ſoon as the ſtomach was ſeized with the inflammation, which the ſymptoms clearly ſhewed, namely, pallid countenance, great anxiety and moaning, nauſea and ſickneſs, even to vomiting, loſs of appetite, with porraceous liquid ſtools, &c. then commenced the great danger. All theſe ſymptoms manifeſtly proved a morbid ſecretion in the ſtomach, which nothing but a diſeaſed organ could produce, the ſtate of which may generally

rally be known by the ſecreted contents. From this period we ſee how all the actions of the animal ceaſed, and which will always be the caſe when an organ of ſuch importance is ſo affected.

In the ſecond caſe a ſimilar inflammation came on as ſuddenly, though not ſo violently; in it alſo no danger appeared till the ſtomach was ſeized, which was accompanied with a convulſive fit, followed by a temporary ſuſpenſion of all ſenſible action, and ſoon after by death.—I need not advert to the neceſſity of opening dead bodies; no one would here have declared the true and immediate cauſe of death, or have known that either the ſtomach or lungs were affected in the way that I found them; and, probably, without ſuch an inveſtigation, I ſhould have ſaid, in the uſual, and often juſt language, that nature was exhauſted by the pain and diſcharge, while the true cauſe was the deſtruction of an organ, the immediate ſupport of life. In children that have died of this diſeaſe, upon diſſection, I have conſtantly found the ſtomach affected as I have deſcribed. That ſtate of the lungs and *pleura* deſcribed in the ſe-

cond caſe, I had never ſeen before; that, moſt probably, would have proved mortal had not the ſtomach been ſo altered; the preternatural ſize of the liver, its colour, &c. I believe, had not any ſhare in the deſtruction of life, as that viſcus did not appear to be in a morbid ſtate. Notwithſtanding theſe caſes generally prove fatal, yet I have ſeen ſeveral recover who have been treated in the manner related, and, from what I have ſeen of them, I think I may infer, that as long as the diſeaſe remains upon the *cutis* and *adeps*, it is not dangerous; but if the ſtomach or any other vital part ſhould be attacked, it proves mortal.—Theſe appearances, upon diſſection, lead me to inquire into the opinions of the *Abbé Spalanzani*, and Mr. *Hunter*, reſpecting the effects of the *gaſtric juice*. When I firſt heard of Mr. Hunter's opinions on the functions of the ſtomach, ſo far as relates to the action of the *gaſtric juice* upon it, I own I was not a little ſurpriſed I had not then met with any ſtomach in the bodies I had opened ſo affected; however, ſuch was my faith in his opinions, as founded upon experiments which carried along with them ſo much conviction, made by an accurate obſerver,

ſerver, that I admitted them to be juſt. But every ſubject I opened for the inveſtigation of the diſeaſe, I made a point of examining the ſtate of the ſtomach with a view to this, and was ſurpriſed not to find any ſuch effect upon it; ſome of theſe ſubjects had died of acute diſeaſes, others of chronic; ſome I opened a few hours after death, others at a more diſtant period; at laſt the children's caſes already mentioned, and others of this kind, fell in my way. Here I had not a doubt but that the appearance of diſorganization of the ſtomach, was a morbid one, and as it correſponded ſo much with that deſcribed by Mr. Hunter, I began to ſuſpect the truth of his opinion: however accurate he had been in his experiments on brute animals, and however juſt his concluſions were, any perſon unacquainted with the ſeveral circumſtances, prior to the death, would naturally conclude with Mr. Hunter. Suppoſing ſuch an infant conveyed to the anatomiſt, and that the arteries were injected, as ſoon as the injection had entered the ſtomach thus altered, it eſcaped into the cavity of the abdomen; the anatomiſt, on viewing it, alſo concluded the *gaſtric juice* had operated as a

 menſtruum

menſtruum upon the coats of the ſtomach, which being deſtroyed, ſuffered it thus to eſcape into the cavity; and in this way would he ſolve the *phænomenon.* Such caſes I have ſeen whilſt a ſtudent of anatomy, and that was the explanation given of them. I am told that this appearance of the ſtomach may always be ſeen after a plentiful ſecretion of the *gaſtric juice*, by killing any animal, a rabbit, for inſtance, ſoon after he had been plentifully fed. Not having made any experiments of this kind myſelf, I ſuppoſe this muſt be allowed; although I ſtill think it very extraordinary, that after opening apoplectic ſubjects, and perſons who had died ſoon after accidents, I had never been ſo fortunate as to ſee it; I have indeed obſerved it in a man who died with ſymptoms of the *angina pectoris*, but this I could, if my paper admitted, explain to be a morbid appearance. From theſe obſervations it would appear that a ſolvent power is aſcribed to the *gaſtric juice* which it does not poſſeſs in any greater degree than fluids ſecreted on the internal ſurface of the inteſtines, or, perhaps, on any other mucous membrane. I have a very great objection to experiments

made

made on living animals, no leſs from the little information they afford, than from the cruelty attending them: Who can read thoſe of the *Abbé Spalanzani* without horror? and what do they prove? that ſome of the ſubſtances were indiſſoluble, and ſome tortured the animal very much; that others were broken down with much difficulty, and others very readily. But why torture animals for this knowledge? Does not the human ſubject, as governed by a rational power, ſufficiently inform us of this? and is any one ignorant of the natural or conſtituent parts of organized matter, the common articles of our aliment? Do not we find that ſome of theſe taken in one form are more ſoluble than in another? and that the recipient, or organ itſelf, is at one time more adapted to perform its office than at another? All this the rational animal can much better inform us, than any rules deduced from theſe experiments. Again, animals which ſtill retain the principle of life have been committed to this almoſt univerſal menſtruum, as it is called, in order to prove its effects upon them; and then we are told with great ſagacity, that as

long as the principle of life remained, (that great preſerver) it had no effect upon them; but this principle was no ſooner removed, than the ſeveral parts would again of neceſſity reſolve into their firſt principles, the natural changes of all mutable compoſites, and from this they have inferred, that dead animal matter is more eaſily diſſolved than living. But, inſtead of torturing living animals to obtain ſuch wiſdom, let us attend to the operation and action of diſeaſe, the ſufficient tormentor of animal life, and it will teach us when and how the parts deviate from their natural functions; and after death, diſſection will ſhew us what alteration the parts have undergone, and their different ſtages. For, as the ſtructure of every part in the body is compoſed of arteries, veins, &c. of courſe no change can take place without an evident alteration in them; and, as every day's experience ſhews us the alteration on the external parts, why ſhould we be at a loſs to explain that which is internally produced, and which I ſhall at ſome future time prove, to a demonſtration, ſince they are ſimilar in all their proceſſes? I muſt defer to ſome future opportunity

tunity the consideration of some other morbid affections of the stomach which I have met with, for want of time to arrange the materials.

ARTICLE

ARTICLE XXII.

Case of inverted Uterus, with Retention of the Placenta after Parturition.

By TOBIAS BROWNE, Surgeon-Accoucheur.

Read November 21, 1796.

Camberwell, Surry, Oct. 18, 1796.

Eliz. Emmett, the subject of the following history, is a woman of a good habit of body, and tolerably well proportioned. She sent for me to attend her in labour, between two and three o'clock in the morning of Monday, Sept. 19, 1796. Upon examination, I found the os uteri gradually dilating, to the extent of an half-crown; but, as I could not then ascertain the presentation, and, as her pains had nearly subsided, I requested her to rise, and walk about; which soon obliged her to resume her former situation on her bed, and about nine o'clock, A. M.

A. M. a rupture of the membranes took place, and it appeared clearly to be a footling caſe, which I delivered in the uſual way. The child was dead, and in a very ſphacelated ſtate: after the fœtal delivery ſome pain enſued, and, by a very ſlight effort to extract the ſecundines, the *funis* broke (it being alſo very putrid). The pains, however, not only continued, but became more exceſſive, with a degree of bearing down hardly to be conceived, and an actual inverſion of the uterus, with the placenta completely adhering, took place. The dangerous ſtate of the patient admitted of no delay; and having conſidered whether I ſhould ſeparate the placenta, and return the uterus, or reduce both together, on paſſing my finger round the placenta, finding it in no part detached from the uterus, I determined on returning them together, and happily ſucceeded.

During this time no hæmorrhage enſued, and I was therefore very averſe to excite one, which a haſty ſeparation of the ſecundines, in that relaxed ſtate of the uterus, muſt have occaſioned; having therefore waited a conſiderable time, (the patient being

as little disturbed as might be expected, considering what had occurred) I endeavoured to impress on the minds of the friends present, that no inconvenience would result: I gave her an anodyne, and directed proper nourishment, and such febrifuge aperient medicines as were requisite to prevent inflammatory symptoms; which, indeed, did not intervene; and on Thursday, September 22 (in the evening), four days from the time of her delivery, a sanguineous discharge, to no great degree, took place, which gave me hopes that the contraction of the uterus was spontaneously occurring: the expulsion of the burden (which I anxiously waited for) happened on Friday the 23d, after a retention of five days, and at this time (now more than a month from her being put to bed) she has every appearance of recovering as favourably as in any of her former labours, she having had thirteen children.

The death of the foetus (by the mother's account) appears to have taken place about the 20th of August, she having on that day accidentally received a severe blow on the abdomen, and never felt it from that period; she

ſhe experienced, however, no material inconvenience from it, nor did I hear any thing of this circumſtance till the time of her labour. The *fœtus* and *funis*, as before obſerved, were highly putrid and offenſive; the *placenta*, on the contrary, was perfectly ſound, and had acquired its original ſize, no doubt, from the maternal circulation being continued till its expulſion.

ARTICLE XXIII.

Caſe of Imperforate Rectum and Obſtruction in the Neck of the Bladder.

By WILLIAM CHAMBERLAINE,
MEMB. CORP. SURG. and F. M. S.

Read MARCH 13, 1797.

MARCH 8, 1797, I was called to attend the labour of Mrs. Aſhmore, No. 15, King-Street, Compton-Street. She had a good natural labour, and was ſafely delivered of a male child. On my viſiting the next day, the nurſe informed me the child had had no evacuation either by ſtool or urine, and that it appeared very uneaſy. I found the pulſe feveriſh, and a great degree of tenſion and hardneſs of the abdomen.

On examining the anus, I found it in a natural ſtate; however, ſuppoſing it poſſible there might be an obſtruction higher up, I introduced a probe into the rectum, and found a firm

a firm reſiſtance at the diſtance of ſomewhat leſs than an inch and a half.

Withdrawing the probe, I then introduced a very ſmall glyſter-pipe well oiled, which ſtopped at the very ſame place; then, examining the obſtruction, by means of the probe, (the glyſter-pipe ſerving as a canula or director) I had not the ſatisfaction to find any thing like re-action, or any ſenſation as if the *fæces* were forcing down ſome thin obſtructing membrane. However, as the caſe was deſperate, and a moſt miſerable, and perhaps lingering, death was inevitable, unleſs ſomething ſhould be done, I determined, at all hazards, to attempt a perforation. Having repreſented the caſe and its conſequences to the parents, and obtained their permiſſion, I determined to perform the operation with a ſmall trocar; and introducing the canula firſt, well oiled, as high as the obſtruction, I puſhed the perforator through the obſtructing ſubſtance until I found no farther reſiſtance; then withdrawing it and the canula together, I had the pleaſure to ſee the inſtrument followed by a very copious diſcharge of the *meconium*, ſlightly tinged with blood. I then thought it adviſable to inject a common

glyſter;

glyster; the pipe, in passing, stopped at the place where the obstruction had been, but the resistance was soon overcome, and a very moderate degree of force enabled me to get it all the way up. None of the glyster was returned, and the child seemed perfectly easy. On my return however, in about two hours, I found we had still another difficulty to combat with. He had not made urine, and, in consequence of this, convulsions, shrieking, fever, tension of the abdomen, and other alarming occurrences, had come on. I took a coach and went to Evans's, but could not get a catheter of a size small enough for a new born infant. I took with me, however, one of the smallest gum elastic catheters I could find; but even this, on trial, was too large, and would not enter the urethra. No time was to be lost; but having no proper instrument, I bent my probe into the form of a catheter, and having, previously to my attempt to introduce the hollow bougie, divided with a lancet the small membrane that closed up the external orifice of the urethra, I passed the probe, without difficulty, as far as the neck of the bladder; having got thus far, its passage seemed op-

 posed

posed by some obstructing substance, nevertheless, by a little perseverance, and gentle management of the probe, I was fortunate enough to find the probe at last move forwards, until I could perceive it to be fairly in the bladder, and the urine making its appearance at the external orifice of the urethra. I then withdrew the probe, which was followed by a plentiful discharge of urine, and the child became for a time easier.

Next day, however, a message was sent to me early, that the child was worse; I found all the symptoms of the preceding day much aggravated, with inflammation (which the nurse mistook for mortification) of the abdomen; I ordered the warm bath, fomentations, and emollient glysters, to be prepared, and passed the probe as the day before, with the same success. By the help of these applications, and a few aperient and carminative medicines, the child recovered, and is now perfectly well.

March 18, 1797. W. C.

ARTICLE XXIV.

An Account of the Effects of Ipecacoanha in the Cure of Dysentery, at Norfolk Island.

By W. BALMAIN,

ACTING AS CHIEF SURGEON TO THE TERRITORY OF NEW SOUTH WALES.

Read JANUARY 16, 1797.

ABOUT the latter end of February 1795, a number of the inhabitants on Norfolk Iſland complained of violent pains and gripings in their bowels, which were attended with frequent diſcharges of blood and mucus.

I ſaw, with much concern, the number of ſick daily increaſing, and their complaints, in general, accompanied by a train of very dangerous ſymptoms.

It may be proper to obſerve here, that in our autumn in this part of the world, (which is the ſpring of the year in England) the dyſentery, (during three years and upwards of

my

my reſidence at Norfolk Iſland) has never failed to viſit the coloniſts in a greater or leſs degree, moſt probably, from the town's being placed contiguous to a ſwamp of conſiderable ſize.

But this year the diſeaſe appeared to be highly aggravated in all its circumſtances, and death was the ſpeedy conſequence in ſeveral caſes.

To check the progreſs of ſo loathſome a diſtemper, I employed all the means in my power, and followed the directions of the moſt able practitioners.

I found the ipecacoanha, given in ſmall doſes, always uſeful, and in an accidental converſation with a Mr. Wentworth, who aſſiſted me at one of the out-poſts, I formed the deſign (from what he then ſaid) of giving that medicine in larger quantities.

He informed me that while he was ſerving his apprenticeſhip, a man who lived in the ſame town where he did, was frequently called upon to adminiſter relief in caſes of the flux; and, from being uncommonly ſucceſsful in the cure of it, his noſtrum was eagerly ſought after, by all perſons in the neighbourhood.

At laſt it was diſcovered that this man's father (who had been a ſoldier in the wars in Germany, and often dangerouſly afflicted with the dyſentery) uſed the powder of ipecacoanha, with the addition of ſome drops of the tinct. opii, and never found it fail in curing him.

His doſe was from a drachm and a half to two drachms and upwards.

Mr. Wentworth, previouſly to our converſation on this ſubject, had given ninety grains of the powder, with forty drops of tinct. opii, to a man whoſe life was apparently near a cloſe, from an attack of the diſeaſe in queſtion, and with whom evacuants had been previouſly uſed: the conſeqence was, a wonderful abatement of every ſymptom in the ſpace of one night, and a repetition of the medicine, in ſmaller quantities, completed the cure in a few days.

I did not now heſitate to follow this mode of practice, and gave the ipecacoanha frequently to the quantity of two drachms, with the addition of ſixty drops of tinct. opii, and, in many caſes, found that a doſe or two was ſufficient to remove every dangerous appearance, and that afterwards, by a due attention

to

to the proper uſe of reſtoratives, the cure, in a number of inſtances, was completed.

I adminiſtered the medicine in various forms, and always obſerved it to anſwer the purpoſe beſt, when given in the form of pills, which were made as large as poſſible to admit of their being ſwallowed; and if the patient kept ſtill, and lay on his back, with the head and cheſt tolerably elevated, nauſea ſeldom or ever followed the taking of the medicine, and oftentimes it happened that he had not a ſtool the ſucceeding day, although, previouſly to taking the ipecacoanha, the grippings were violent, and the diſcharge of blood frequent, and in large quantities.

I have only to add, that before I uſed the ipecacoanha, I generally adminiſtered the ſal. cath. Glaub. and always thought myſelf more ſucceſsful in conſequence of its uſe.

If what I have related is no new thing to medical men in general, its being ſo to me has induced me to trouble you with it.

W. BALMAIN.

To Mr. HENRY FIELD, Secretary
to the Medical Society of
London.

SYDNEY, NEW SOUTH WALES, DEC. 21, 1795.

SIR,

SINCE my firſt Letter to you reſpecting the effects of ipecacoanha in the cure of dyſentery, I have had occaſion to remark its operation in ſimilar caſes, and have found it, in almoſt every inſtance, attended with happy conſequences, when adminiſtered in the ſame kind of way.

I am happy to inform you that the inhabitants of this ſettlement enjoy, in general, an excellent ſhare of health; and that diſeaſes, either peculiar to the people or country, are ſeldom diſcovered. The fruits of intemperance, and other irregularities, are chiefly what we have to contend with, and at times, afford the medical gentlemen conſiderable employment. I ſhall ſtudy to deſerve the good-will of the Medical Society, and am, with very great reſpect,

SIR,

Your moſt obedient,

very humble ſervant,

W. BALMAIN.

SYDNEY, NEW SOUTH WALES,
SEPTEMBER 18, 1796.

ARTICLE XXV.

A Caſe of Empyema.

[Communicated by Mr. WASTELL, of BROAD-STREET, ST. GEORGE'S in the EAST.]

Read AUGUST 7, 1797.

MAY 16, 1793, Mr. John Metcalfe, aged 16, of an athletic make, and ſanguine habit, was expoſed to violent cold, when over-heated by exerciſe. In the evening he complained of a ſharp pain in his left breaſt, and acroſs his loins; and feeling chilly, he drank ſome warm brandy and water, and went to bed. He was reſtleſs and feveriſh in the night; and the next morning, the pain being more ſevere, Mr. Waſtell was ſent for.

He then complained of a pain acroſs his cheſt, and particularly in the region of his left kidney. His ſkin was very hot, his face like ſcarlet; his breathing difficult and painful; his pulſe 100, hard and full. Eighteen

ounces of blood were taken away; a large bliſter was applied to his ſide; and various medicines were given. The next morning the ſymptoms were rather more favourable; but in the evening they were much aggravated; his ſkin was dry, his cough hard, &c. Twelve ounces of blood were taken away. May 19th, he was better; but on the 20th his breathing became very difficult, and the pain in his cheſt more ſevere: his pulſe was 110 and tenſe. He loſt five ounces of blood, and Dr. Saunders was called in; who ordered eight ounces more of blood to be taken away, and four grains of James's powder to be taken every four hours, with a ſaline draught.

On the 25th the pain was nearer to the *vertebræ*, and on the 2d of June it abated, and ſymptoms of a criſis appeared. The left carotid artery beat 110 times in a minute; the pulſe at the wriſt was 88.—June 4th, the pain was near the left nipple; and the next day it was in the left ſhoulder.—June 12th, he continued much in the ſame way; the pain ſhifting from his ſhoulders to the right ſide, which was very acute when he coughed. Three ounces of blood were taken from the back

back by cupping; and his ſide was dry-cupped, which gave great relief.

July 3d, a tumour appeared under his left nipple, attended with pain, and projection of the ribs. A plaiſter of empl. litharg. comp. was applied. July 14th, his cough continued to be troubleſome, with acute pains. July 20th, the tumour was larger: a freſh plaiſter was applied. The pulſation of the carotid artery was 140 times in a minute; that at the wriſt 110. This day he ſaid, he perceived ſomething give way in his cheſt: his pain then ceaſed. July 23d, he had a good night, coughed ſeldom, and had very little pain. This day Mr. Waſtell obſerved his heart beat on the right ſide. July 25th, the tumour was leſs, and the pain ſcarcely perceptible. From this time his cough troubled him but ſeldom.

Aug. 6th, a ſmall tumour was perceived between the 7th and 8th ribs, on the right ſide: the heart was ſtill more on the ſame ſide. Aug. 10th, Mr. Turnbull, ſurgeon to the Eaſtern Diſpenſary, examined him with Mr. W. When placed in a recumbent poſture, the ſmall tumour on the right ſide emptied itſelf: when preſſed upwards it gave great

great pain. The pulſations at the wriſt were 110; thoſe at the heart more frequent. The riſing of the ribs on the left ſide continued nearly the ſame: the tumour on the right ſide became painful. Aug. 14th, on applying his hand to the tumour on the right ſide, Mr. Waſtell could perceive it fill and empty itſelf, every time the patient coughed. Aug. 16th, the tumour was larger; and filled at every expiration. Mr. W. propoſed opening it, but was not permitted. Aug. 19th, the tumour was very painful, and diſcoloured.

Aug. 20th, this day, at noon, he had an inceſſant cough, and began to ſpit thick matter, of a greeniſh colour: when Mr. W. came to him at five o'clock, he had ſpit three half pint baſonfuls, and was like to be ſuffocated. Dr. Turnbull, phyſician to the Eaſtern Diſpenſary, accompanied Mr. W. and agreed with him in the neceſſity of an immediate operation; which Mr. W. performed, by making an inciſion between the 7th and 8th ribs, on the right ſide, and let out 52 ounces of thick matter, ſimilar to what had been ſpit up. The part was dreſſed with a poultice; and the patient was put to bed. The pulſation of the heart was then

near to the right axilla; and too quick to be counted: the pulſe at the wriſt 136; his breathing 48 times in a minute. He was placed on his right ſide, and an anodyne was given. His appetite did not fail during his whole illneſs; but his ſtrength was much reduced.

About five days after the opening was made, the heart began to approach towards the ſternum, and the tumour on the left breaſt gradually diſappeared. The diſcharge, both by the wound, and by the mouth, continued copious for ſome days; then it diminiſhed. Nine days after the operation, the heart was under the ſternum.

Sept. 1ſt, he ſpit freely by night, but not in the day; and as the diſcharge from the wound was leſſened, and a fulneſs appeared below the orifice, Mr. W. enlarged the aperture, and applied a poultice. Three days after, the heart was perceived on the left ſide of the ſternum; and the patient was better in all reſpects. Sept. 6th, as the expectoration of matter, by night, continued, Mr. W. made two iſſues between his ſhoulders, to hold three peas each, and gave him tonics, and an opiate at bed-time. From this

time

time his recovery was rapid, and he gained ſtrength daily.

On the 26th of September he walked from Burr-Street to Broad-Street, diſtant a mile and a half, to ſee his phyſician, Dr. Saunders, and to let him know that his heart was again in its proper place; and walked back without the leaſt inconvenience. He now gained fleſh, and began to recover his florid complexion.

Sept. 30th, he went to Stockton, his native place, by ſea; and about a fortnight after, informed Mr. W. by letter, that he was able to ride out every morning without fatigue; that the wound in his ſide was healed, but the iſſues ſtill continued to diſcharge freely.

ARTICLE

ARTICLE XXVI.

Effects of Arteriotomy in Cases of Epilepsy.

By ANTHONY FOTHERGILL, of Bath, M. D.

Read February 26, 1795.

J. Y——, an industrious shoemaker of this city, aged 35, of short stature and full habit, though not addicted to intemperance, about two years ago, without any visible cause, except the want of due air and exercise, in consequence of his sedentary occupation, was seized on a sudden with a severe fit of epilepsy, which afterwards returned at uncertain intervals with increasing violence. Venesection, and various remedies having been employed without success, and his memory and judgment, by repeated attacks, being greatly impaired, I was at length consulted.

Finding, on inquiry, that an exacerbation of

of the diſeaſe had generally accompanied the great lunar periods—that his appetite of *late* had become inordinate, attended with a coſtive habit, full pulſe, throbbing of the temporal arteries, and fluſhed countenance, ſymptoms clearly denoting an increaſed determination of blood to the *encephalon*, I did not heſitate to order copious bleeding from the TEMPORAL ARTERY, till a ſenſe of faintneſs ſhould enſue; which, after 12 or 14 ounces had been extracted, accordingly happened. While the blood was flowing he found his head evidently relieved.

Having directed ſome purgative pills, compoſed of jalap, with a few grains of calomel, to obviate coſtiveneſs, with neceſſary reſtrictions reſpecting his diet and regimen, I forbore to preſcribe any other remedy. From that time the fits ceaſed, and with returning health his faculties were reſtored.

About a twelvemonth ago another caſe of epilepſy occurred in W. M——, a young man of ſimilar habit and ſedentary employment, wherein arteriotomy was had recourſe to, and with ſimilar effects. But unfortunately, the youth being devoted to appetite, and impatient of reſtriction in diet and regimen,

men, after a lucid interval of ſix months, brought on a relapſe through his own folly. Notwithſtanding this apparent ſucceſs of arteriotomy in recent caſes of epilepſy, let it not be imagined (eſpecially where there is a preternatural determination to the brain) that a radical cure can be generally effected by this, or any other remedy, without conſtant attention to an abſtemious diet and ſtrict regimen.

ARTICLE

ARTICLE XXVII.

Obſervations on human inteſtinal Worms, being an Attempt at their Arrangement into Claſſes, Genera, and Species.

By ROBERT HOOPER, M. D.

Read October 2, 1797.

It is a fact equally well known to phyſicians and philoſophers, that the human body contains in its interior, different ſpecies of worms. Theſe worms are alſo known to produce diſeaſed ſtates of the bodies in which they inhabit, and to become the ſource of innumerable evils. To inquire therefore into their anatomy and economy, and to point out their peculiarities, is a matter of no ſmall importance, but, on the contrary, may contribute to eſtabliſh a more rational method of cure in diſeaſes produced by theſe worms. The deſcriptions of writers on this ſubject are frequently diſcordant, and we have yet

to

to lament the want of an arrangement, which ſhall diſtinctly point out the ſpecific characters by which each worm may be diſtinguiſhed. To obviate theſe inconveniences, and to reduce to order what has hitherto been much confuſed, I have, in the following ſheets, endeavoured to lay down ſome obſervations towards eſtabliſhing an arrangement of human inteſtinal worms. It is my intention alſo, at ſome future period, to prove, that the human inteſtinal worms are of themſelves diſtinct from all other worms, and only inhabit and propagate in the human *primæ viæ*.

The motives, which induced me particularly to conſider this ſubject were, the very frequent applications made to me by the numerous and indigent poor who applied to the inſtitution to which I have the honour to belong, for relief in diſeaſes produced by theſe animals. At this place, ſacred to the feelings of humanity, I have enjoyed every advantage that the extenſive nature of my ſituation would permit. To this object my views have been directed for theſe eight years. In all the caſes which have come under my care, and in all the diſſections at which I have been preſent, whether of the human ſpecies, or of

other animals, I have been uniformly desirous of investigating the nature of worms.

At some future period, should time and opportunity permit, I purpose laying before the public some observations on the different methods of cure in worm diseases, to which the present paper is preparatory; but, in consequence of being at present engaged in several literary undertakings, I am apprehensive it may be some time before I can arrange my papers and notes on this important branch of pathology.

It is now five years since I first discovered a new species of worm, the drawing of which, as well as of the other worms, was made by that ingenious artist Mr. Henry de Bruyn, by whose unremitting attention I am enabled to lay before the society the several drawings, the greatest part of which were taken from the microscope; but it was not till lately that I found that the same worm was first mentioned by Roederer, in the year 1760. To him the honour of the discovery is therefore due, "*longe mihi potior cura est veritatis quam novitatis,*" (Morgagni). By him it was first called Trichuris, and under that name I have described it.

It

It is ſomewhat ſingular, that this worm ſhould have eſcaped the notice of anatomiſts and phyſicians ſo long; and, although it is mentioned of late years by Wriſberg, Blumenbach, Goeze, and others, their deſcriptions will be found to vary conſiderably from that which I have given. I believe it to be entirely new in this country. It is nowhere mentioned in the works of any of our moſt celebrated anatomiſts and phyſicians, nor do the moſt eminent characters, with whom I have had frequent opportunities of mentioning this ſubject, ever recollect to have met with it in their practice; on which account it may, with propriety, be numbered among the diſcoveries of modern times. There are ſeveral ſpecimens of this worm in the late Dr. Hunter's muſeum, but this great anatomiſt, engaged in purſuits which have immortalized his name, was ignorant of their being Trichurides, and believed them to be adventitious. By Dr. Baillie's kindneſs I have examined them, and find them, in every reſpect, ſimilar to that which I have deſcribed.

The following obſervations are intended to point out the principal *phenomena* obſervable in theſe paraſitical animals, as far as they are

with certainty known. A great field remains yet to be explored, and, perhaps, at ſome future period, their nature and offices may be more generally and better known: "*nam multum egerunt qui ante nos fuerunt, ſed non peregerunt; multum adhuc reſtat operæ, multumque reſtabit: neque ulli nato poſt mille ſecula præcidetur occaſio aliquid adhuc adjiciendi.*"—Seneca.

Such is the nature and office of the human ſtomach and inteſtines, that inſects and worms, or their ovula, may not unfrequently be conveyed into that canal with thoſe things, that are continually taken as food; but ſuch inſects or worms do not live long, and ſeldom, if ever, generate in a ſituation ſo widely different from their natural one.

Beſides theſe, there are worms, that are never found in any other ſituation than the human ſtomach or inteſtines, and which there generate and produce their ſpecies.

Thus it appears that the human ſtomach and inteſtines are the ſeat for animalculæ, which are tranſlated from their natural ſitua-

tion,

tion, and alſo for worms proper to them, which live in no other ſituation, as I ſhall prove in the deſcription of each ſpecies.

THE FIRST CLASS

Contains thoſe worms, which are generated and nouriſhed in the human inteſtinal canal, and which there propagate their ſpecies.

THE SECOND CLASS

Comprehends thoſe inſects or worms, that accidentally enter the human primæ viæ *ab extra*, and which never propagate their ſpecies in that canal, but are ſoon eliminated from the body; ſuch are, ſeveral ſpecies of Scarabœi, the Lumbricus terreſtris, the Faſciola, the Gordius inteſtinalis, and others.

The ſecond claſs belongs to the province of natural hiſtory. The conſideration of the firſt claſs is the ſubject of the preſent paper, which, from the variety it affords, I have thought proper to divide into different orders, genera, and ſpecies, and have attached ſuch peculiarities as, eventually, will diſtinguiſh them from all others.

ORDER I.
THE ROUND WORMS.

GENUS I.
INTESTINAL ASCARIDES.

Character.

Body round. Head obtuſe and furniſhed with three veſicles.

Species.

ASCARIS LUMBRICOIDES. THE LONG ROUND WORM, OR LUMBRICOID ASCARIS.

Character.

When full grown, a foot in length. Mouth triangular.

ASCARIS VERMICULARIS. THE THREAD OR MAW WORM.

Character.

When full grown, half an inch in length. Tail terminates in a fine point.

GENUS

GENUS II.

INTESTINAL TRICHURIDES.

Character.

Body round. Tail three times the length of the body. Head without veſicles.

Species.

TRICHURIS VULGARIS. THE TRICHURIS, OR LONG THREAD WORM.

Character.

The head furniſhed with a proboſcis.

ORDER II.

THE FLAT WORMS.

GENUS I.

INTESTINAL TAPE WORMS.

Character.

Body flat and jointed.

Species.

TÆNIA OSCULIS MARGINALIBUS. THE LONG TAPE WORM.

Character.

The oſcula are ſituated upon the margin of the joints.

TÆNIA OSCULIS SUPERFICIALIBUS. THE BROAD TAPE WORM.

Character.

The oſcula are placed upon the flattened ſurface.

Theſe worms were all known to the ancients, the Trichuris only excepted, and are mentioned in the works of Hippocrates, Galen, Celſus, Paulus Ægineta, and Pliny.

ORDER I.

GENUS I.

Species 1.

ASCARIS LUMBRICOIDES.

Latin. Lumbricus teres.
Engliſh. The long round worm.
French. Le ver ſtrongle, le ver long et rond.
Ελμινς στρογγυλα of the *Greeks.*

SYNONYMS.

Lumbricus teres. *Clerk hiſtor. lumb. lator. p.* 229.
——— inteſtinalis humanus teres. *Klein. herpet. p.* 62.
——— inteſtinalis. *Pallas diſſert. de infr. vivent. p.* 13. *n.* 4.
Aſcaris lumbricoides. *Linnei ſyſtem. natur. p.* 1076.
——————— *Mulleri hiſtor. vermium. p.* 35. *n.* 166.
Der Darmwurm. *Mulleri tranſl. Linnei ſyſt. nat. vol.* vi. *p.* 36.
Der Hurzwurm. *Zwingeri obſervat. p.* 437.
Der Rundwurm. *Goeze. Naturgeſch. p.* 78.
Der Spulwurm. *Bloch.* Abhandlung vou der Crzengung, &c. &c.

6 *Eſſential*

Essential Character.

The body round. Length from twelve to fifteen inches. Head furnished with three vesicles, forming in their middle a triangular space.

Description.

SIZE. When full grown, from twelve to fifteen inches in length; and in circumference equal to that of a goose quill.

The HEAD is to be distinguished from the tail by a small contraction, very obvious when the worm is lying down; it is trilobated, having three vesicles, and a triangular aperture, between which is the mouth. These three globose papillæ are joined together at their basis, and are of the same colour as the rest of the worm.

THE TAIL may be known from the head by its very acute termination, close to which is a large orifice, the extremity of the intestinal canal, which I have therefore termed the anus.

THE BODY is that part between the two extremities, forming nearly the whole of the worm; it puts on a rugose appearance, and has

has a line very apparent running on each ſide, and extending from one end to the other. Between theſe two lines are two other lines running parallel with the former, ſcarcely viſible. Near the middle of the body (rather towards the head) is a circular depreſſion of about the one-fourth of an inch in extent, in which is a very ſmall punctiform aperture. This depreſſed band is regular in its appearance, when the body of the worm is diſtended, although it would appear to be wanting when collapſed, in which ſtate it moſtly eſcapes from the inteſtines.

Situation.

They generally infeſt the ſmall inteſtines, and of theſe more frequently the courſe of the jejunum and ileum. Sometimes they are known to aſcend through the duodenum into the ſtomach, and I have frequently ſeen them creep out at the mouth and noſtrils. It happens but rarely, that they deſcend into the tract of the large inteſtines, and then only after the exhibition of vermifuges, or from other cauſes, which increaſe the periſtaltic motion. They have alſo been detected *poſt mortem* in the ductus communis cholidochus; and

and inftances are related where they have remained a confiderable time in the vefica fellis*.

Number.

In general they are very numerous; I knew a girl eight years old who voided *per anum* upwards of two hundred in the courfe of a week; between thirty and fifty is a very common number. Neverthelefs inftances frequently occur of their being folitary.

Colour.

When recently excluded they are tranfparent, and appear as if they had been fucking water tinged with blood; this colour, however, foon difappears, and they become at length of a light and opaque yellow.

Motion.

When voided by patients they are, in general, very feeble, and foon die in fpite of all attempts to keep them alive. I have, however, occafionally fucceeded by fuddenly evacuating them by a very draftric purge, and

* There is a preparation illuftrative of this fact in the Mufeum of Mr. Heavifide. The greateft part of the worm is convoluted within the gall-bladder, and a portion of the tail fills the ductus cyfticus.

imme-

immediately putting them into warm milk and water, when they appear extremely vivacious. Their motion is ſerpentine, and in no reſpect reſembles that of the lumbricus terreſtris, or earth worm, which has the power of conſiderably diminiſhing its length and again extending itſelf. Whereas that of the lumbricoid aſcaris is never diminiſhed, the head is always ſent forward by the worm curling itſelf into circles, and ſuddenly extending it with conſiderable force to ſome diſtance.

Sex.

It is ſaid that the aſcaris lumbricoides is not hermaphrodite, but that the male and female are diſtinct worms*. The worm which I have deſcribed is conſidered as the female, and all the obſervations I have given are made from one of that ſex. Neverthelеſs, I muſt obſerve, that I have examined a very conſiderable number of theſe animals, and have never ſeen any other appearances than thoſe I have deſcribed.

* This is the opinion of many ingenious anatomiſts, and Dr. Baillie, in his *Morbid Anatomy*, page 122, ſays, "in the lumbricus teres the parts of generation are different in the male and female."

Anatomical

Anatomical Obſervations.

Cuticle. The covering or external membrane of the worm which may be conſidered as the cuticle, is very ſtrong, elaſtic, thin, ſmooth, and tranſparent; and eaſily ſeparates from the parts beneath if the worm be macerated a few days after death in water.

Cutis. Under the cuticle lies the cutis, or true ſkin, which is conſiderably thicker than the former, and retains the marks of the muſcles which it covers. It is alſo very ſtrong, elaſtic, and tranſparent.

Muscles. When the cutis is removed the muſcles, obſervable through the ſkin of the worm, preſent themſelves. They do not entirely ſurround the worm, as from their appearance one would be induced to believe; but are, in fact, two diſtinct orders acting in oppoſition to each other; for the two longitudinal lines, which extend from one extremity of the worm to the other, are, each of them, compoſed of two diſtinct tendons, ſeparable from one another. Theſe tendons ſerve for the attachment of the ſemilunar muſcles, which cover the worm from the head to the tail.

Mucous Vesicles. Upon removing carefully the ſemilunar muſcles from the head to the depreſſed band, a number of minute veſicles are to be ſeen (by means of a glaſs) filled with a ſubmucous fluid, which iſſues out upon punćturing them. This cellular, or parenchymatous apparatus, cloſely embraces the inteſtinal tube, from the head to the depreſſed band; but from thence to the tail, there is merely a fibrous connećting ſubſtance, ſimilar to what is generally called cellular membrane.

Peritoneum. When the muſcles are removed from the depreſſed band to the tail of the worm, an extremely delicate membrane preſents itſelf, analogous to the peritoneum, for it embraces the abdominal viſcera, and lines the cavity of the abdomen.

Cavity of the Abdomen. This extends from the depreſſed band near the middle of the worm to the tail; it is moſtly diſtended with a tranſparent fluid, and contains the inteſtinal tube and an apparatus ſuppoſed to be ſubſervient to generation, which conſtitute the abdominal viſcera.

Intestinal Canal. This begins at the obtuſe extremity or head, from the external triangular

triangular mouth ſituated between the three globoſe papillæ, and is continued for a ſmall ſpace downwards (nearly half an inch) in a parallel form. To this part Dr. Baillie, in his Morbid Anatomy, has given the name of œſophagus. It then becomes larger and tranſparent, continues increaſing in ſize as it advances, until it arrives at the beginning of the abdomen, in which courſe it is cloſely embraced by a parenchymatous ſubſtance, as I have before noticed. Having now attained the ſize of a crow quill, it paſſes in a ſtraight direction (and gradually enlarges as it advances), through the whole length of the worm, to within the eighth part of an inch, where it becomes ſuddenly narrower, and terminates in the anus.

This canal is generally filled with a greeniſh coloured fluid of the conſiſtence of mucus, not very unlike to the *meconium* of infants. If a portion of this tube be macerated for a few days in water, it exhibits diſtinct tunics, the external of which is a production of the peritoneum; it is externally covered with filaments, which connect it to the abdominal parietes. May not theſe be veſſels of nutrition?

THE

The second Viscus. This apparatus is confidered by fome as peculiar only to the female worm *, but all agree, that it is for the purpofe of generation. It begins near the middle of the worm, where the cavity of the abdomen commences, by a flender tube, which is continued from the punctiform aperture, fituated in the depreffed band between the two longitudinal lines. This tube, which is termed the vagina, foon becomes much larger, when it commences uterus, and divaricates into two large crura, which, for the fpace of four or five inches, are continued of an uniform diameter; they, then, on a fudden, become much diminifhed in fize, and appear like opaque threads, embracing in every direction the inteftinal tube. Thefe are by *Werner* confidered as the Fallopian tubes.

This convoluted apparatus is compofed of very fine tranfparent membranes. It is never found empty, but is always diftended with an

* In fœminis incipit tubo infundibuliformi, qui poftice divaricatur in duo ampla crura, &c. &c. In maribus canalis generationi inferviens, præeunte *Tyfon*, quem *Murray* et *Werner* fecuti funt, hanc fervat rationem: a poftico extremo lumbrici incipit canalis conicus aliquot lineas longus, quem *Tyfon* penem appellavit. Vide *Schroeteri* Diff. Inaug. p. 13.

opaque fluid, in which are a number of globular bodies, or ovula, containing young worms.

Refutation of this Worm being viviparous.

In the fecond volume of the Memoirs of the Society, to which I have the honour to prefent thefe obfervations, there is an account of the lumbricoid afcaris, accompanied with a drawing illuftrative of the worm in the act of voiding her young; the author of which endeavours to prove, that they are viviparous*. The

* "Every one," fays Mr. Church, "who has examined "this worm attentively, when newly difcharged from the "body, muft have obferved an appearance of white threads, "folded, as it were together, about the middle of the "worm; this fubftance has been generally fuppofed to be "the inteftines of the worm filled with the chyle it had "juft fucked from the body out of which it proceeded; but "the fact I am going to relate feems to prove, beyond a "doubt, that this white appearance is, in reality, the "young worms nearly fit for exclufion from their parent." And in another part he continues, "I put them (the lum-"bricoid afcarides) into a phial filled with one-third part of "rectified fpirit and two-thirds water. This appeared to "give them great uneafinefs, and whilft I was obferving "their contorfions, I perceived fomething like threads "proceeding gradually from the middle of the belly of one "of them, which advanced very fenfibly for about a quar-"ter

The account Mr. Church has given, appears to have arisen, from his not having attended to the internal structure of the animal, for the thread-like appearances, which he has taken to be *in reality the young worms*, are no more than portions of the gyrated apparatus, or Fallopian tubes, I have already described; which always protrude, when the skin of the worm is broken, and this generally happens after any increased peristaltic motion of the intestines. But the most convincing proof of these animals being oviparous is, the detection of ovula in the mucus surrounding them in the intestines, which do not differ, in any respect, from those in the uterus of the worm.

Refutation of this Worm being (as is by many supposed) the Earth or Lob-worm, Lumbricus terrestris Linnæi.

The long round worm of the human intestines has, for many centuries, been considered

" ter of a minute; at which time I could perceive three " distinct worms, above an inch long, exactly like the parent, all alive and moving briskly in different directions. " About this time the death of the mother put a stop to the " perfect exclusion of the offspring, who also died with her, " and now remain hanging to the body."

of the ſame ſpecies as the earth or lob-worm; the fallacy of which I have therefore thought proper to demonſtrate.

The lumbricus terreſtris has but *one veſicle* at its head, in the middle of which is its mouth; it is flat towards the tail, and is furniſhed with ſharp briſtles on its under ſurface, that ſerve it for feet, which the animal can erect or depreſs at pleaſure; its annular muſcles are very large and ſtrongly marked, and its colour is of a duſky red. Whereas the lumbricoid aſcaris has none of theſe *phenomena*. I have before noticed its colour is a pale yellow, that its muſcles are very delicate, and its head furniſhed with *three veſicles*. Upon the under ſurface of the earth-worm there is a large ſemilunar fold in the ſkin, into which the animal can draw its head, or thruſt it out at will; but there is no ſuch form in the aſcaris lumbricoides: the former alſo has an elevated belt in its middle, but in the latter there is a depreſſed band. On each ſide of the aſcaris lumbricoides there is a longitudinal line very diſtinctly marked; on the earth-worm there are three lines upon its upper ſurface.

Species 2.

ASCARIS VERMICULARIS.

English. The Maw or Thread-worm.
Latin. Afcaris.
French. L'Afcaride.
German. Der Afterwurm.

SYNONYMS.

Ασκαριδες *of the Greeks*.
Afcaris pollicaris. *Linnæi Faun. Suec. n.* 1269.
——— vermicularis. —— *Syft. natur. p.* 1076.
——— cauda fedacea. *Mulleri hift. verm. n.* 165.
——— græcorum. *Pallas differt. de infr. vivent. p.* 12.
Vermis afcaris. *Le Clerc hiftor. lumb. lat. fig.* 3 *p.* 10.
Die Aftermade. *Mulleri Syft. de Lin. vol.* vi. *p.* 53.
Die Afterwurm. *Bloch's Abhandlung von der Erzeugung der Eingeweidewurmer. p.* 81.
Die Pfriemanfchwanz. *Goeze Naturgefchichte der Eingeweidewurmer. p.* 97.

Effential Character.

Head obtufe, and furnifhed with three veficles. Tail terminates in a fharp point.

 Defcription.

Description.

Size. When full grown about half an inch in length, and in thickneſs reſembling a fine piece of thread.

The Head, or obtuſe extremity, is nodoſe, and divided into three veſicles or papillæ, in whoſe middle is an aperture, through which the worm takes its nouriſhment.

The Body forms about a third part of the length of the animal, beginning immediately from the head, and terminating in the tail, known by its becoming leſs. It is of a rugoſe, pellucid, annular fabric.

The Tail commences where the body ends, gradually becoming leſs, and terminating (like a cobbler's awl *) in a fine point. When viewed with a glaſs, it appears ſubulated, and furniſhed with rugæ or thick firm annuli, and there is a ſmall aperture at its beginning, through which the fæces are excreted.

Situation.

They are moſt commonly ſituated in the inteſtinum rectum of children, and are con-

* Thus it is called by ſome German writers Die Schwanz-ſpitze.

tinually

tinually paſſing *per anum*; hence they are called by the Germans Afterwurm. They are frequently met with in the cæcum and colon, and have been found in the ſtomach * and ſmall inteſtines, lying hid between their tunics.

They not unfrequently creep round from the *anus* to the vulva in women †, and I have known them inhabit the vagina and uterus. Anatomical inveſtigations after death have expoſed them in the bladder and urinary paſſages.

Number.

This ſpecies is generally in very conſiderable numbers, eſpecially in the rectum of children. When they inhabit other parts, their numbers are leſs conſiderable, yet I have known upwards of an hundred vomited in the

* Wolf Obſervat. Chirurg. Medic. l. 2. obſ. 4.

† Hippocrates, in his liber de morbis mulierum, affirms, that the aſcarides are generated *in ſinu pudendi muliebris*, and recommends the ſemen viticis and ox's gall to deſtroy them. His words are, Επὴν γυναικος εν τω αιδοίω ἢ εν τω ἀρχω ἀςκαρίδες γίγνωνται, λύγυ καρπός μίςγεἶαι, ἢ φύλλα, και βοὸς χολὴ παραμιςγεται οςον οβολος, κεδρινω δε ελαίω φυρῆν, και ἐιρίω πινόεντι ευιρωτάτω αναλαβεῖν.

courſe of a day from the ſtomach of a young woman.

Colour.

Their natural colour is a pale yellow. They are often obſerved of a yellowiſh green, and occaſionally brown. This would appear to depend upon a variety of circumſtances with which we are unacquainted; for, if ſuffered to remain a day or two in water, they always (whatever their colour may be) become of an opaque pale yellow.

Motion.

The head is the part firſt put into motion, which the animal turns in every direction, ſometimes forming a circle, at other times the figure eight; but moſt frequently its tail appears fixed, whilſt it turns its body ſometimes to one ſide, and then to the other. They are extremely vivacious, and I have ſeen them bury themſelves in the ſoft fæces of children almoſt inſtantaneouſly upon expoſure to the atmoſpheric air. By ſome they are ſaid to jump from one place to another, but I cannot ſay I have ever ſeen them *.

* This circumſtance appears to have given riſe to the name aſcarides; for *ασκαριζειν* ſignifies the ſame as *σκαριζειν* ſaltare, inquiete movere, ſalire.

Sex.

The vermicular aſcarides are not, as is the generally received opinion, hermaphrodite. The male and female are diſtinct worms.

THE MALE, when expoſed to the magnifying power, does not exhibit any of the gyrated apparatus, which, in the female, is decidedly for the purpoſe of bringing the young to perfection. The ſtomach and inteſtinal canal have, apparently, a different arrangement from thoſe of the female, and are the only viſcera I have been able to detect. I have ſearched for the male organs of generation, but have never been fortunate enough to find them. Perhaps they are ſo very minute as to elude our reſearches.

THE FEMALE has, upon its external ſurface, about the eighth of an inch from the head, a ſmall punctiform aperture through which the young are protruded. When the worm is very much magnified, its internal cavity appears filled with the convoluted apparatus; and I have ſeen upwards of an hundred of the young eſcape through the external aperture, all alive, and very vivacious, ſeveral hours after the death of the mother, upon making a ſlight preſſure with the finger.

Anatomical Obſervations.

The integuments of this ſpecies are ſimilar to thoſe of the lumbricoid aſcaris, and conſiſt of cuticle, cutis, and, as far as I can diſcover, only one ſet of annular muſcles.

I have never been able to detect any longitudinal lines upon its external ſurface.

The cavity in which the viſcera are ſituated, begins at a very ſmall diſtance from the head, and terminates where the tail commences; at which place there is a ſmall opening, the extremity of the inteſtinal canal.

The only viſcera in the MALE worm are the œſophagus, ſtomach, and inteſtine.

The ŒSOPHAGUS begins at the mouth, gradually enlarges for a ſmall ſpace, and terminates in the ſtomach.

The STOMACH is a ſomewhat round bag, ſituated at the extremity of the œſophagus, ſo that, both together, they are piſtilliform, that is, reſembling an apothecary's glaſs peſtle, which, according to Goeze, conſtitutes a diſtinguiſhing character of this ſpecies *.

The

* "Dies iſt eine ganz eigene art," ſays Goeze, "und unterſcheidet ſich vou allen ubrigen ſtandhaft durch folgende unveranderliche karaktere:

1. durch

The ſtomach evacuates its contents into the INTESTINAL CANAL, which is continued through the worm, more or leſs contracted or dilated, until it terminates in the anus.

The contents of the ſtomach and inteſtinal tube are always of the ſame colour, a dark brown.

THE FEMALE worm has (beſides the viſcera I have deſcribed) an apparatus ſubſervient to generation. It begins by a ſlender tube leading from the ſmall punctiform opening or pudenda, ſituated nearly in the middle of the body of the worm. It ſoon becomes much larger, embraces the inteſtinal tube in every direction, and fills up the cavity of the worm. This gyrated uterus is not bifurcated as in the aſcaris lumbricoides, nor has it thoſe filiform appendages. Its end or fundus is as large as any other part. When viewed with the microſcope, it appears like a bladder diſtended with worms, for its young are diſtinctly ſeen moving about from one end to the other.

1. durch den,wie eine Morſerteule, geſtalteten Saugkanal und Magen.
2. durch den, wie eine pfrieme oder Schuſteraale, in die feinſte Spike zulaunfenden, Schwanz."

GENUS

GENUS II.

Species 1.

TRICHURIS VULGARIS.

Latin. Trichuris.
Engliſh. The long Thread-worm.
French. Le ver a queue.
German. Der Schwanzwurm.

SYNONYMS.

Trichuris. *Wagleri & Roederer de morbo mucoſo, &c.*
Trichuris inteſtinalis. *Wriſberg de animal. infuſ. p.* 6.
Aſcaris Trichuria. *Schroeter, diſſert. Inaug. de vermibus. C. H. p.* 16.
Der Schwanzwurm. *Blumenbach, hand. der natur. & Bloch. Abhand. von der Crzeug. der Cingeweidewurmer.*

Eſſential Character.

Body large and furniſhed with a proboſcis, Tail twice as long as the body, and filiform.

Deſcription.

SIZE. The body, when full grown, equals in breadth the ſixteenth of an inch. In length

length the whole worm meaſures nearly two inches, two-thirds of which are tail; hence the French call it *le ver a queue*.

The large extremity of the trichuris is the HEAD, out of which proceeds a kind of proboſcis, not always viſible; for the animal has the power of ejecting and drawing within itſelf this inſtrument at pleaſure.

THE BODY may be ſaid to begin at the baſis of the proboſcis; it is the thickeſt part of the worm, and the moſt ſo at the extremity, where the proboſcis is received. It gradually diminiſhes in ſize as it proceeds, and forms about one-third part of its length.

The TAIL commences where the body terminates. It is twice as long as the body, and appears like a fine hair, gradually becoming ſmaller, and at length terminates in a very fine point.

Number.

I have ſeen upwards of twenty in ſome fæces of a child of ſix years old, and, according to the account of Blumenbach, they are, in general, in conſiderable number.

Situation.

Situation.

Wriſberg, Blumenbach, and others, have found theſe worms in the inteſtinum rectum, in the inferior part of the ileum, and alſo in the jejunum, mixed with their pultaceous contents. I have never ſeen them after death but in the cæcum.

Colour.

Like the vermicular aſcarides.

Motion.

The only worm I have had an opportunity of examining alive, was that from which the drawing annexed was taken. Its motion was by no means vivacious, which would appear to ariſe from a want of power, as the animal died ſoon after. About a minute before its death the proboſcis was withdrawn, and ſuddenly elongated three or four times, when it gradually curled itſelf into the ſhape in which it is repreſented, and was never obſerved to move after.

Sex.

Goeze has given a drawing of a female trichuris, and ſays it has no proboſcis (the proboſcis

proboſcis he ſuppoſes to be the male organ of generation); but, as I have carefully diſſected thoſe which were, apparently, without the proboſcis, and find no material difference in the viſcera, I am inclined, at preſent, to doubt the fact. If the apparatus contorted in a ſerpentine manner be peculiar to the female, and be conſidered as the ovarium, why ſhould it exiſt in a male worm?

Anatomical Obſervations.

This curious and ſingular animal is ſupplied, like the foregoing genus, with annular muſcles, cutis, and cuticle.

The proboſcis, which is undoubtedly the head of the worm *, appears to be formed of a tranſparent ſubſtance, and contains a canal which is continued through the pulpy or funnel-like portion to the ſtomach and inteſtine.

THE STOMACH AND INTESTINE are formed by a long canal, which proceeds in a direct line from the head to the very extremity of the worm. It is largeſt at its beginning,

* Goeze conſiders this proboſcis as the penis, and ſays the other extremity is its head; and in the female drawing he makes the filiform extremity the tail, and the other the head.

and

and continues of the ſame ſize throughout the body of the animal; and when arrived at the place where the tail commences, it ſuddenly becomes conſiderably leſs in diameter, and terminates in the anus.

The remaining viſcus, or OVARIUM, is a convoluted canal ſimilar to that of the female vermicular aſcaris, but is ſeldom found embracing the inteſtinal tube. The contents of this canal are ovula and a limpid fluid. I have never ſeen any young worms.

H. De Bruyn Delt. T. Medland Aquatinta.

Tænia osculis marginalibus.

ORDER II.

GENUS I.

Species I.

TÆNIA OSCULIS MARGINALIBUS.

English. The tape or long joint-worm.
Latin. Tænia cucurbitina, Solium.
French. Le ver solitaire.
German. Der Kurbiswurm.

SYNONYMS.

Vermis cucurbitinus. *Plateri praxis medica. p.* 992.
Catena de cucurbin. *Valisneri opera in folio, p.* 177.
Vermi cucurbitini. ——— *neuve observazioni. p.* 174.
Lumbricus latus. *Tyson philosoph. trans.*
——————— *De Haen ratio medend. p.* 12. *c.* 5. *p.* 210.
Tænia solium.
——- sans èpine.
Ver cucurbitaire. } *Andry. gener. des vers. cap.* 3. *art.* 2. *p.* 74.
Tænia cucurbitina. *Pallas elench. p.* 405.
——————— *Vogel de cog. & cur. corp. hum. affect. p.* 146.
Tænia articulos demittens. *Dionis dissert. de tænia.*
Tænia secunda. *Le Clerc hist. lumb. lat. tab.*i. *a. tab.* ii.
Tænia solium. *Linnæi syst. natur. edit.* 12. *p.* 1323.
Tænia a longues articulations.
Tænia anneuxs longues. } *Bonnet. mem. des sav. etrang. v. p.* 1.

Eſſential Character.

The oſcula are ſituated upon the margin of each articulation, and the ovaria are diſpoſed in an arboreſcent form.

Deſcription.

This animal conſiſts of an head * placed at the ſmalleſt extremity, and a chain of articulations more or leſs broad or long, which gradually enlarge as they advance, and at length terminate in a tail, formed by a rounded joint. Each of theſe joints contain their proper viſcera.

EXTERNAL STRUCTURE OF THE HEAD. When viewed by the naked eye, and lying upon a flat ſurface, three projections preſent themſelves, one anterior, and the other lateral. But if the head be held up, and its extremity viewed attentively, five projections are conſpicuous; one ſituated directly anteriorly and in the middle, and the other four backwards, and laterally.

* Linnæus ſtrenuouſly denied that the tænia had any ſuch head, as appears from many parts of his writings.

The anterior projection is the proboſcis of the worm. When examined by the aid of glaſſes, it preſents a protuberant margin, ſurrounding an excavation of a ſtriated appearance like a ſtar. In the centre of this is an orifice or mouth leading to a canal, hereafter to be mentioned. The ſtellated appearance, when more minutely examined and enlarged by the magnifying lens, is found to be compoſed of two ſeries of radii, with little bulbs or veſicles correſponding to the number of fibrils, with which the margin is beſet, and which gives it a laciniated appearance. Theſe laciniæ * are by ſome ſaid to be vaginal, including ſuctorial bulbs, whence they have named them "*vaginæ ſugentes.*"

Paſſing backwards we come to the neck of the proboſcis, which, as it advances towards its baſis, becomes flattened and broader. Its baſis is quadrangular, and has an hollow protruding tubercle or oſculum at each angle. It then becomes conſiderably flattened, and forms a thick margin, which receives the

* Tyſon calls them *ſpiculi hamati*, and they are the *uncinulæ* of Pallas and Loeſke.

ſuperior or adjacent margin of the next joint.

THE EXTERNAL STRUCTURE OF THE JOINTS. In this ſpecies of tænia the joints differ very much in the ſame worm. Their figure is by no means characteriſtic. They are, for the moſt part, oval, rhomboidal, oblong, or quadrangular, and generally have a great reſemblance to large cucumber ſeeds; from which circumſtance the detached joints have been named CUCURBITINI. They are ſhorteſt near the head, and their length towards the tail is ſometimes exceeded by their breadth.

When the ſurface of a joint is viewed by a microſcope, directly after it has been wiped with a ſponge, it appears rough and villous, but it ſoon becomes covered with a white tenaceous liquid, which exudes through the pores of the ſkin. If this liquid be again wiped off during the life of the animal, it is quickly renewed. May not the villi be exhaling veſſels? On the margin of each joint, near the middle, is an oſculum, and none on the oppoſite margin of the ſame joint. It ſometimes happens that a joint is furniſhed with more than one oſculum. They have frequently

frequently been obſerved with three or four. I have in my poſſeſſion a joint with five oſcula upon one margin. May not this throw ſome light upon the propagation of the joints? But, in general, the next joint has its oſculum ſituated on the margin of the oppoſite ſide, ſo that it alternately changes. This order, however, is ſeldom preſerved throughout the whole tract of the worm, for they are ſometimes on the ſame ſide for ſeveral joints together, but they never are ſituated on the flattened ſurface; hence their being marginal is an eſſential character of this ſpecies.

Anatomical Obſervations.

I have never been able to detect but one membrane in the tænia, which is very porous and elaſtic, and which I am induced to believe, from ſome experiments, is endowed with nervous power. Tæniæ, therefore, have no cuticle.

THE HEAD. The head is compoſed, like the other parts of the worm, of cutis and muſcular fibres. The fibres, however, are not in any regular order, but appear to run in every direction, and are united to-

gether by a connecting cellular membrane.

The head contains alſo within it the beginning of the alimentary canal, which originates from the mouth by a ſimple tube or œſophagus, that bifurcates near the baſis of the proboſcis. This bifurcated alimentary tube proceeds from the head near each margin of the worm to the other extremity.

Through this canal the animal conveys the chyle to every part for its growth and increaſe.

INTERNAL STRUCTURE OF THE JOINTS. When the cutis is removed the muſcles of the worm are laid bare. They are of a white colour, very much reſemble the coagulable lymph, and are diſpoſed into two orders, evident to the naked eye.

1. *The longitudinal* or external muſcles, which are of a ſtrong, firm texture, running parallel to each other in the direction of the worm, being firmly attached to a kind of ligamentous band, and placed along the articulatory receiving margin of each joint.

2. *The tranſverſe* muſcles, which are ſituated under the longitudinal, and acroſs the joint tranſverſely from one extremity to the other.

other. I have never detected any point of adhesion at the margins, and believe them to be annular.

When the *longitudinal* muscles contract the length of the joint is diminished and drawn forward.

The *transverse* muscles act by diminishing the breadth of the joint, and sometimes render it almost round.

Each articulation, or joint, is furnished internally with two distinct kinds of vessels, the alimentary tube and the ovaria.

The rest of the joint is composed of a connecting cellular substance.

ALIMENTARY TUBE *. I have already described the beginning of this canal in the structure of the head, at the basis of which it divaricates into two distinct canals, which are continued near the margins from one extremity to the other, and in the extreme joint, where it is impervious. This longitudinal tube is also supplied with transverse canals. There is always one sent across each joint along the articulatory receiving margin to the canal on the opposite side, with which

* Le Clerc was the first who discovered this canal, but he had not the most distant idea of its use.

it has a communication, ſo that the contents of one tube are, with great facility, communicated acroſs to the other. As theſe canals are not to be detected except by injecting the worm, it may not be unacceptable to my readers to relate the method I uſually purſue. Having prepared my injection *, and ſoaked the injecting ſyringe, and the portion of the worm, for ſome time, in warm water, I make a longitudinal inciſion with a lancet, near the margin of the joint, and introduce the point of the ſyringe filled with injection, taking care that its head is turned towards the head of the worm, and then make a gentle preſſure on the ſyringe, when the injection will ſoon be obſerved running along the ſides of the worm, and ſeveral yards may be injected by one puſh. When the worm is thus injected, it ſhould be carefully dried and

* The injection for this purpoſe is prepared in the following manner. Take of fine parchment ſhavings one handful, and boil them in three pints of ſoft water to a pint and a half; and then ſtrain it through a very fine gauze ſieve for uſe. Of this ſize I generally take a ſmall cupful, and mix as much finely levigated Chineſe vermillion, or any other colouring matter, as is ſufficient to give it the deſired ſhade. The ſyringe I uſually employ is, an oyſter ſyringe with a quickſilver tube,

put

put into oil of turpentine, when the longitudinal and tranſverſe canals will appear very diſtinctly.

OVARIA. Each individual joint has a vaſcular ſtructure ſituated between the longitudinal canals, occupying the middle of the worm. It is always diſpoſed in an arboreſcent form, and is termed the *arboreſcent ovaria*, from its reſemblance to a tree, being compoſed of a middle canal or trunk, and lateral ramuli. There is a communication between this arrangement of veſſels and the oſculum on the margin, by means of an intermediate canal, which, in ſome joints, is filled with a brown matter. The ovaria are generally filled with an opaque fluid, very like chyle, which is ſaid to contain ovula. In ſome joints, and moſtly thoſe near the tail of the worm (for theſe are generally more tranſparent than the reſt), this circumſtance is evident to the naked eye, eſpecially if the joint be put on blue or black paper.

If ſome of this opaque chyle-like fluid be taken out of theſe canals and expoſed to view in a good microſcope, it is ſaid to exhibit ovula of different ſizes, from the largeſt of which very ſlender tæniæ have been ſeen to

eſcape

eſcape upon rupturing its ovum, contorted in a ſpiral form, and having conſpicuous traces of articulations, and one extremity acuminated, the other obtuſely broad *.

Of the Connexion of the Joints.

The joint next to the head is received into the baſis of the head, and it, in like manner, receives the beginning of the next joint, which order is obſerved throughout the whole extent of the worm. Thus the inferior margin of joint, or that towards the tail, is called the receiving articulatory margin, to diſtinguiſh it from the other which is received. The receiving articulatory margin is ſupplied with a ligamentous band, to which the longitudinal muſcles are attached, which firmly embraces the next joint. This margin may always be known from the other by its being largeſt, and by its being fringed, whereas the other is plain, and ſomewhat rounded.

Of the Separation of the Joints of this Worm into the VERMES CUCURBITINI.

The joints of the tænia oſculis marginalibus are very eaſily ſeparated from each other

* Vide Goeze.

whilſt the animal is alive. This ſeparation is effected either by the periſtaltic motion of the inteſtines, or, perhaps, ſpontaneouſly. Each joint thus detached from the mother worm, has the power of retaining, for a conſiderable time, its living principle, and is called, from its reſemblance to the ſeed of the gourd, *vermis cucurbitinus*. This phenomenon has given riſe to many warm diſputes; ſeveral authors have denied their being portions of tæniæ, and have affirmed that they were diſtinct worms; but of this hereafter. The ſeparated joints do not appear capable of retaining their ſituation for any length of time, but are ſoon forced down the inteſtinal tube, and at length creep out, or are expelled *per anum*. I knew a man who had been for ſome time troubled with this ſpecies of tænia; whenever he took an eccoprotic medicine, he voided upwards of forty detached joints with his fæces; and, I remember a female patient, who was always tormented by their creeping *per anum* two or three hours after dining, without the exhibition of any medicine. Such eliminations are common to all who nouriſh this worm.

Thus

Thus it is evident that the joints of this animal exiſt for a time when ſeparated from each other. I have kept them alive, and fed them for two or three days together; but I do not believe that they are capable of living any length of time in the inteſtines, when perfectly detached.

I am inclined to believe that the vermes cucurbitini have not the power of propagating the ſpecies, i. e. of forming freſh joints; I conceive that property to be peculiar to the head; but this is to be conſidered as mere hypotheſis, cheriſhed by the two following circumſtances: 1ſt. That their expulſion always ſucceeds their being detached; and, ſecondly, that the ſeparation of the joints appear to be the only means of inſuring the worm a continuance in its ſphere; for, were the head to continue multiplying the joints, and the joints have the ſame power, they would ſoon obliterate the cavity of the inteſtinal tube, and, conſequently, effect their own expulſion.

Of the Formation of freſh Joints.

There are ſeveral caſes faithfully recorded, and ſeveral have come under my own care, where

where the perſons, if their veracity can be depended upon (and they had no intereſt in deceiving), have voided, during the time they were troubled with the worm, upwards of fifteen thouſand. I have attended ſeveral patients who were martyrs to the ravages of this animal for upwards of ſeven years, and the number of joints which during that period have been evacuated, are beyond all conception; from ſome, upwards of fifty per day, and ſeldom fewer than twenty.

When a ſpecific is adminiſtered, and the *whole* worm or worms is brought away by ſtool, no more portions are ever known to follow. But experience teaches, that when all is voided except the head, that then in a ſhort time after, freſh joints are generated, and the patient is as much troubled with them as before.

Thus it is evident that the formation of the joints is proper to the head of the animal, and, I believe, to it alone.

Number of this Species of Tænia.

It is not, in general, ſolitary, as is commonly ſuppoſed; Herrenſchwanz, Madam Noufer,

Noufer, and others, mention their feeing feveral come away, at the fame time, from their patients.

Situation.

They are always found in the *jejunum* and *ileum*, occupying their whole extent.

Colour.

Tæniæ are moftly of a pale white, but the colour varies in different worms. They are not unfrequently of a light brown caft, which, in all probability, arifes from living on the chyme, or on chyle mixed with fome bile.

Motion.

The motion of tæniæ is undulatory. The firft joint towards the head contracts, the fucceeding ones follow fucceffively, and the worm is at length drawn confiderably forwards, exactly in the manner that the earth worm is feen to move, but not near fo rapidly. By this means the food taken in at the mouth of the worm is very foon conveyed all along the alimentary canal. I have detected milk mixed with a colouring matter

running

running along this canal in the above manner with confiderable rapidity.

Sex.

There can be very little doubt of tænia being hermaphrodite. The ofcula are believed to be vifcera, fubfervient to the propagation of the fpecies *, and they can be proved to give exit to the ovula.

Length.

Boerhaave mentions his meeting with a tænia thirty ells in length, and Pliny fays he has feen them upwards of thirty feet long. The exact length, however, depends upon the manner in which the death of the animal was occafioned. If expelled by irritating

* This is the opinion of the ingenious Mr. Carlifle, who fays, "In a tænia which I obtained before it was dead, I obferved, at one part where it had formed a knot upon itfelf, that two pairs of thefe ofcula were in contact with each other, and were agglutinated together by a vifcid mucus. I was not at that time aware of the poffible nature of this connexion, and neglected preferving them in that ftate. I now fufpect, however, that they were in the act of copulation, and that a mutual influence takes place previoufly to the formation of ova. Vide Tranfactions of the Linnean Society, vol. ii. p. 255.

medicines,

medicines, it will not be as long by nearly one-half, as if its death had been occaſioned by emollients; for, in the firſt inſtance, it would be very much contracted, but in the latter, very much relaxed.

OBSERVATIONS.

Dionis, in his treatiſe upon tænia *, has called this ſpecies tænia articulos demittens, in conſequence of the frequency of its parting with its joints; and this circumſtance has given riſe to innumerable errors.

The Arabian phyſicians obſerving theſe detached portions come away alive, and not thinking it poſſible they could be joints of another worm, believed they were a diſtinct ſpecies, and deſcribed them accordingly.

Others, finding ſeveral of the joints articulated together, believed it to be in conſequence of ſuction †.

Thoſe who could not conceive how the angles and veſſels could correſpond ſo exactly, ſuppoſed they were all ſurrounded by a common membrane, which Van Helmont

* Diſſertation ſur le Tænia ou ver plat. p. 14.

† Vide Larthuſer fundam. path. tom. ii. p. 203.

aſſures

aſſures us has its origin from the inteſtinal mucus.

Linnæus arranges them amongſt the polypi, and many very learned authorities appear to favour his opinion. The following is an extract from one of his letters to Baron de Haller. Tæniam examinavi, et reperi 14 vivas integras, quæſivi caput quod omnes medici in lumbrico lato, quæſiverunt, ſed fruſtra; falſiſſimum eſt caput, quod Tulpius habet in obſervationibus, et fruſtra quæritur caput, nam caput eſt in ſingulo articulo, et os in ſingulo articulo, in una ſpecie ſubtus, in altera ad latus. Nullus mortalium potuerit intelligere hunc vermem, qui non intellixerit polyporum naturam, et propagatur ſecedentibus articulis, dum quilibet articulus vivit et accreſſit in perfectum corpus: inſerui actis Upſalienſibus nunc imprimendis *.

Some believe the lateral oſcula to be the mouths by which they take in their food, and, at the ſame time, conſider them as excretory veſſels. Coulet † and Ernſt are of this opinion, the latter expreſſes himſelf thus: Nihil

* Vide Linnæus in Collect. Epiſtol. ab erud. viris ad Haller. Tom. 2. p. 411.

† Tractatus Hiſt. de Aſcarid. l. c.

ergo reſtat quam ſtatuere idem orificium abſorptioni chyli et excretioni excrementorum inſervire. Objectio enim quaſi nulla excrementa ejicerent iſti lumbrici, quia merum chylum ederent, nulla eſt; alias infantes puro lacte viventes nihil excrementitii haberent; nec abſurdum putes hoc ben. lect. ſi idem oſculum et deglutitioni et excrementis largior. Stella enim marina unicum in ſuperiori ſuperficie habet orificium quo artificioſe prædam arripit, devorat, et quicquid eſt excrementitii, per idem orificium reddit, nonne idem noſtræ Tæniæ natura diverſimodo ludente privilegium concedi potuit *?

Bonnett appears in one part of his treatiſe on inſects, to favour a ſimilar opinion, although he expreſſes himſelf very differently in other places. Speaking of a ſpecies of tænia he obſerved with two oſcula on the flattened ſurface, he ſays, "Ces petits viſceres analogues a l'eſtomac et eux inteſtines communiquent avec les ſtigmates; et ſi le plus grand de ces ſtigmates fait le fonction de bouche, on preſume aſſez que l'autre s'acquitte de l'anus †."

* Vide Ernſt. Diſſert. Inaug. de Tænia ſecunda Plateri.

† Vide Bonnett Traité d'Inſectologie.

The

The ſame author conſiders them as organs of reſpiration *. The arboreſcent ovaria are, by thoſe who believe the oſcula to be the true mouths which convey nouriſhment to the worm, taken for chylopoëtic veſſels, and their ovula for ſmall glands † or pieces of fat, or young polypi ‡.

The four ſuckers at the head, Andry aſſures us, are their eyes §; and Mery is willing we ſhould conſider them as the animal's noſtrils ||. The obtuſe extremity has been taken for the head, and the true head for the tail **.

It is ſomewhat ſingular that ſo many accurate obſervers in ſeveral nations have, during many centuries, pretended that there never was but one of theſe tæniæ in the ſame individual, from whence aroſe the name of SOLIUM, and by the French *Le ver ſolitaire*.

It appears to me ſuperfluous to prove the

* Vide Bonnett, l. c.

† Vide Syſtem. Natur. Linnæi, tom. i. p. 1323.

‡ Vide tom. iv. des Memoires des Curieux de la Nature a Berlin, p. 218.

§ Andry ſur la Generation des ver. loc. cit.

|| The ſame book.

** Le Clerc Hiſtor. Lumbric. lator. p. 165.

fallacy of theſe and various other ridiculous opinions, and to refute them; for having, I truſt, ſatisfactorily demonſtrated, that they have heads, and the head an apparatus by means of which it abſorbs the nouriſhment, which paſſes from thence to every articulation of the worm; that the oſcula, and the various ramifications which are obſerved in the internal part of the joints, are ſubſervient to generation, and that ovula paſs from thence into the inteſtinal canal; and as it is ſufficiently proved that theſe tæniæ, as well as other worms of our inteſtines, exiſt only in the human body, and that in ſociety, I think all further refutation needleſs.

Species 2.

TÆNIA OSCULIS SUPERFICIALIBUS.

Engliſh. The broad tape worm.
German. Der Breite Bandewurm.
Latin. Tænia lata.
French. Le tænia large de l'homme.

SYNONYMS.

Tænia prima. *Plateri prax. medic. c.* 14.
Lumbricus latus ſeu Tænia inteſtinorum. *Plateri edit. ult. tom.* iii. *p.* 816.

Tænia.

Tænia. } *Andry generation des vers. c. 3.*
Solium a epine. } *art. 2. p. 73.*

Tænia articulos non demittens. *Dionis differt. de tænia.*

Tænia prima Plateri. *Le Clerc hist. lumb. lat. tab. 5. fig. 1. tab. 6 fig 2. tab. 7. fig. 1. & tab. 8. fig 1.2.& 4.*

Tænia lata. { *Linnæi System. natur. edit. 12. p. 1323-4.*
Pallas Elench. Zooph. p. 450.
——— *Differt. de inf. viv. p. 35.*

Tænia osculis lateralibus solitariis. *Linnæi Syst. natur. edit. prim. n. 3. p. 324.*

——— ——— ——— geminis. *Linnæi Amæn. Acad. t. 2. p. 78. tab. i. fig. 2.*

Tænia vulgaris. *Linnæi System. natur. edit. ult.*

Tænia a anneaux courts. } *Bonnett Memoires des*
——— articulations courts. } *Scavant. Etranger. vol. i. p. 478.*

Tænia acephala. } *Vogel de cog. & cur. corp. hum.*
Tænia capitata. } *affect. 1772. p. 645-6.*

Der Breite Bandewurm. *Mulleri System. Linnæi, vol. vi. p. 707.*

Essential Character.

The oscula situated on the flattened surface of each joint. Ovaria disposed like a star round the osculum.

Description.

It is composed of a head. a chain of articulations, and a tail formed of a round joint.

THE HEAD is ſimilar to that of the other ſpecies.

THE JOINTS are more uniform in their appearance than thoſe of the tænia oſculis marginalibus. They are conſiderably more broad than long, and their oſcula are not placed on the margin, but in the middle of the flattened ſurface, and only on one ſide. I have never ſeen them change their ſide, but have always obſerved them on the ſame ſide throughout the whole extent of the worm.

In every other reſpect the deſcription of this ſpecies agrees with that which I have given of the other, except that the ovaria are in the form of a roſe or ſtar, hence they are called by ſome writers *Ovaria roſacea*, and others *Stigmates roſacèes*; and that the tranſverſe canals by which there is in the other ſpecies a communication between the longitudinal canals, are in this wanting.

Separation of the Joints.

In regard to the ſeparation of the joints, it is to be remembered, that this ſpecies ſeldom or ever parts with any; and when it does, it happens from ſome increaſed periſtaltic motion

tion of the inteſtines (and not ſpontaneouſly) by which a portion is torn aſunder, and paſſes off with the fæces: thus Dionis has called it Tænia articulos non demittens. This, however, is no characteriſtic of its ſpecies, for when the worm is come away, how are we to know whether it ever ſent off any joints?

Number of this Species of Worm.

Uncertain. Seldom more than three or four; but this number is by no means unfrequent.

Length.

This ſpecies of tænia ſeldom exceeds five yards in length.

Situation.

It is always ſituated in the ſmall inteſtines, and it would appear that it feeds on no other food than pure chyle.

Colour.

It is for the moſt part of a darker hue than the former ſpecies, nevertheleſs I have ſeen it as white as milk.

Motion and Sex.

Like thoſe of the other ſpecies.

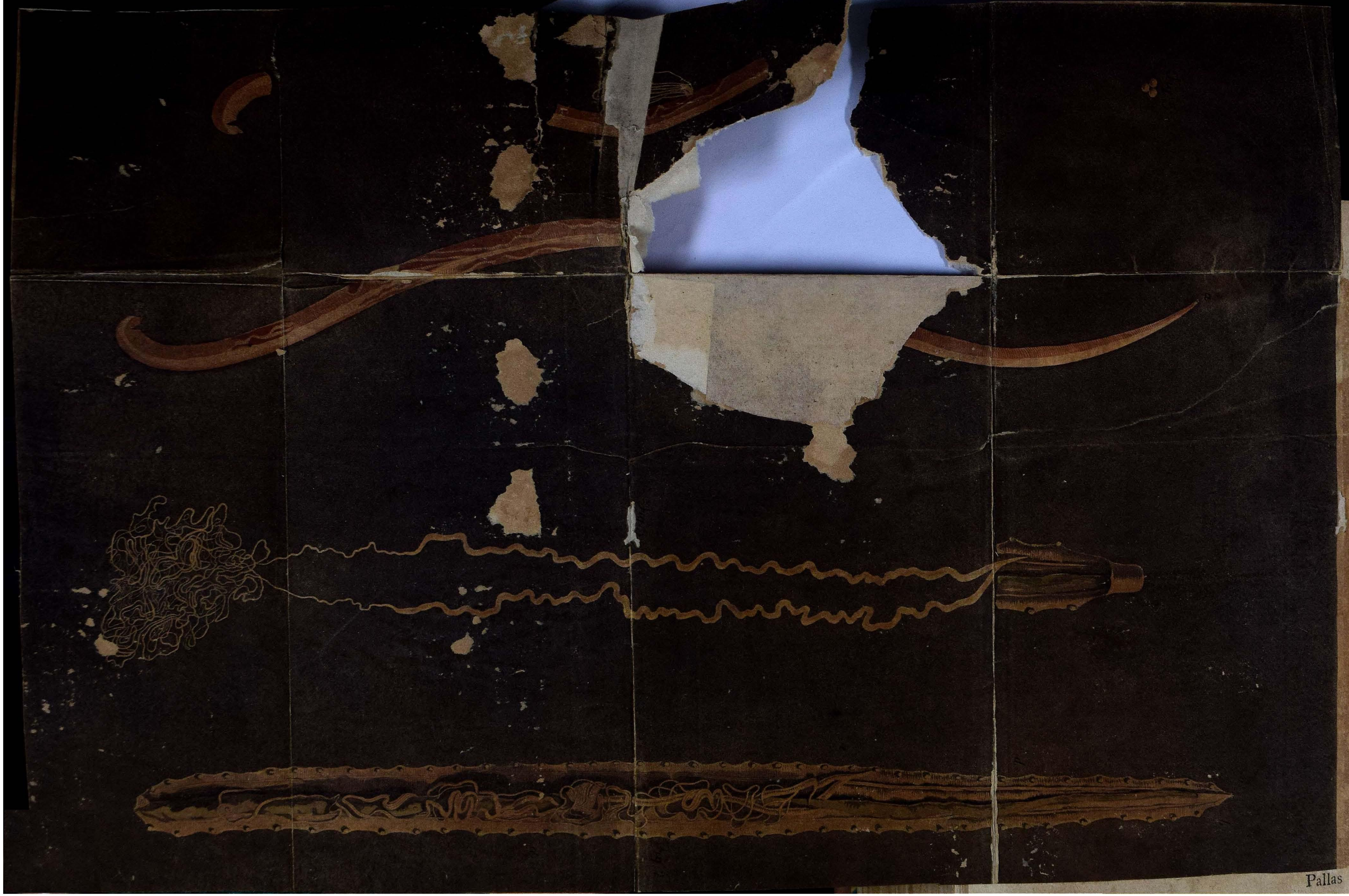
OBSERVATIONS.

This ſpecies of tænia is very ſeldom met with in this country, but is endemic in Switzerland and Ruſſia *, and very common in Germany and other parts of Europe.

It is no uncommon circumſtance in the countries where this ſpecies is endemial, to have it come away before it has arrived at its full growth, and this occurring ſo frequently, has given riſe to the name of TÆNIA TENELLA, which is by many conſidered as a diſtinct ſpecies, though, in reality, no other than the worm we have juſt deſcribed, differing from it in ſize only, having every thing elſe in common with it.

Linnæus enumerates another ſpecies of tænia, which he ſays has two oſcula on each joint, one placed upon each ſide, and which he terms TÆNIA VULGARIS. This, which at moſt can only be a variety, is called by

* Vide Cartheuſer libellus de morbis endemiis.



Pallas

Pallas Le Gris, who ſays it is of a white colour, and that eaſily changed into a griſeous one by ſpirit of wine. As I have never had an opportunity of obſerving this worm, I paſs it by—probably it is only met with in Switzerland.

EXPLANATION OF THE PLATES.

ASCARIS LUMBRICOIDES.

Fig. 1, repreſents the worm as it appears when recently voided from the bowels.

a. The head.
b. The tail.
c. The depreſſed band.
d. The punctiform aperture.
e. The line extending from the head to the tail.
f. The gyrated apparatus as it appears through the ſkin of the worm.

Fig. 2, repreſents the viſcera of the worm in their natural ſituation; the ſides of the ſkin being fixed down by pin-heads.

The

a. The head.

b. The œſophagus.

c. The inteſtinal canal.

d. The lines of the body of the worm.

e. The uterus and its convoluted appendices.

Fig. 3, repreſents the uterus, its bifurcation, and its appendices, as they appear when unravelled.

Fig. 4, repreſents a portion of the worm, as it ſometimes eſcapes from the bowels: part of the convoluted apparatus protruding through the parietes of the abdomen.

Fig. 5, repreſents the head enlarged by the microſcope, in which the three veſicles, and the triangular mouth, are ſeen very diſtinctly.

Fig. 6, repreſents the anus and termination of the perpendicular line.

ASCARIS VERMICULARIS.

Fig. 1, exhibits the worm in its natural ſize.

Fig. 2, repreſents a very frequent appearance of this worm when viewed by the microſcope.

a. The head.

b. The tail.

c. The piſtilliform ſtomach.

d. A convoluted

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d. A convoluted apparatus that ſurrounds the inteſtinal canal, which is here and there very obvious.

e. Moſt probably the anus.

f. The external part of the organs of generation.

Fig. 3, exhibits another appearance of the vermicular aſcaris, when enlarged by the microſcope.

a. A bladder-like appearance about the head.

b. The external part of the organs of generation through which an immenſe number of ova and young worms have been obſerved to eſcape.

TRICHURIS VULGARIS.

Fig. 1 and 2, repreſent the natural ſize of this worm, which is ſometimes convoluted and ſometimes ſtraight.

Fig. 3, exhibits the worm as it appeared through the microſcope.

a a. The head.
c. The proboſcis.
d d. The inteſtinal canal.
b. The tail.
⟍ A hollow tube.
× The ovaria.

TÆNIA OSCULIS MARGINALIBUS.

Fig. 1, a portion of the worm of its natural ſize and uſual appearance.

a a. The marginal oſcula.

Fig.

Fig. 2, a portion of the worm injected, to ſhew the inteſtinal canal.

Fig. 3, exhibits the arboreſcent ovaria, as they appear between the inteſtinal canal, when injected with their natural fluid or quick-ſilver.

Fig. 4, the head of its natural ſize.

Fig. 5, the head enlarged by the micro-ſcope.

Fig. 6, a full view of the head, as it appears when very much magnified.

a. The oſcula at the baſis.
b. The protuberant margin, and ſtellated appearance.
c. The mouth.

Fig. 7, a detached joint of the uſual ſize.

a. The extremity which is received.
b. The extremity which is ſupplied with the ligamentous band to receive the next joint.

Fig. 8, exhibits a full view of an oſculum, from which a dark line is ſeen running inwards; this is ſometimes a frequent occurrence, and is often obſerved in many joints, as in fig. 9; it is a canal, diſtended with a dark pulpy ſubſtance, but has no communication, that can be detected, with the inteſtinal canal or ovaria.

TÆNIA

TÆNIA OSCULIS SUPERFICIALIBUS.

Fig. 1, exhibits the largeſt and moſt extreme portion of this worm with its ſuperficial oſcula. The head is ſimilar to that of the tænia oſculis marginalibus, with this difference only, that it is much more filiform.

Fig. 2, repreſents a portion of the worm with the inteſtinal canal and ovaria as they appear when injected.

N. B. The tail is here delineated as terminating in a rounded joint, which is the moſt common mode of termination; nevertheleſs, it is ſometimes ſeen terminating by a bifurcated apparatus, and each fork has been obſerved, ſince theſe drawings were engraved, to have four or five tentacula.

ARTICLE XXVIII.

A ſhort Memoir on the Antivenereal Effects of ſeveral Acids, and other Remedies, which have been lately propoſed as Subſtitutes for Mercury in the Cure of Syphilis.

By Mr. BLAIR, Surgeon of the Lock Hospital, &c.

"Pluris eſt oculatus teſtis unus quam auriti decem:
Qui audiunt, audita dicunt; qui vident plane ſciunt."

Plautus.

Read February 19, 1798.

About the middle of October laſt, I announced my intention of ſoon publiſhing the firſt part of a work, to be entitled, *Eſſays on the Venereal Diſeaſe*, which ſhould exhibit the reſult of my experience in numerous caſes wherein the nitrous acid, and other remedies containing a large proportion of oxygen or vital air, had been given for the cure of the lues venerea: but, ſeveral unforeſeen occur-

rences

H. De Bruyn Del.t T. Medland Aqua-tinta.

Tænia osculis superficialibus

rences having prevented the immediate execution of my deſign, I have been ſolicited in the interim to furniſh the *London Medical Society* with a few hints on this ſubject. In compliance with that requeſt, I beg leave to ſubmit the following curſory obſervations to their conſideration; reſerving a more detailed account for a future occaſion, when I ſhall likewiſe have an opportunity of examining the merits of ſeveral reports which have been recently publiſhed on this topic, both in England and upon the continent.

It will be unneceſſary, in this place, to recite what has been advanced in behalf of the new antivenereal medicines, improperly ſo called, and the hopes which have been expreſſed, not only "that mercury will be baniſhed" by theſe means, but "that the poiſon of ſyphilis may be extinguiſhed:" ſuffice it to ſay, that the high-ſounding encomiums which have been laviſhed on theſe remedies, induced me to give them a fair and unprejudiced trial in about ſixty caſes; the greater part of which were well marked inſtances of a confirmed ſyphilis, where either venereal blotches, nodes, ozæna, or ulcerated fauces, were preſent.

 The

The acid of nitre, which I adminiſtered, was procured partly from Apothecaries Hall, and partly from private chemiſts; the oxygenated muriate of potaſh was obtained at firſt from Mr. Coxwell, near Temple Bar, but afterwards (by the recommendation of Dr. Rollo and Mr. Cruickſhank) from Mr. Speed, of Cannon Street: no difference, however, was obſerved in the effects of theſe remedies, thus variouſly ſupplied; nor did I find the *nitric* acid to be more efficacious than the *nitrous*.

The trials I have made were conducted either at the LOCK-HOSPITAL or at the OLD FINSBURY DISPENSARY: in the former, I deſired the nurſes to ſee the patients take each doſe exactly at the times, and in the proportion I preſcribed; and although this could not be done at the Diſpenſary, I have no reaſon whatever to ſuppoſe any deception was uſed by a ſingle perſon at that inſtitution.

To prevent all ſuſpicion of my not having given theſe remedies in their full extent, I have uſually continued the treatment from four to eight weeks, according as the events of the caſes juſtified my expectation or procedure: in ſome of them I uſed the nitrous acid

acid firſt, and then the oxygenated muriate of potaſh; but without any difference in the reſult. The acid has been given in the quantity of two or three meaſured drams daily, ſeldom more, till from one hundred to an hundred and ſixty-five drams were taken in the whole. I have ſeveral times given the oxygenated muriate of potaſh internally, to the amount of two hundred grains a day; but it could not be uſed externally, after the method of *Mr. Alyon and Dr. Swédiaur at Paris.*

In a word, I have uniformly " endeavoured to bring every thing to the teſt of truth," as Dr. Geach very properly requires; and have beſtowed more pains in the adminiſtration of the " *new ſpecific*," ſo called by an ingenious profeſſor of pneumatic chemiſtry, than I ever found neceſſary in the application of the old one: therefore, if my ſucceſs has been contrary to my wiſhes, the fault cannot be juſtly attributed to want of attention and perſeverance.

It has lately been ſuggeſted, indeed, that " the poſitive evidence is ſuch as cannot be invalidated by negative; eſpecially as the facts to be brought forward will account for the general failures." I ſhall be extremely happy

 to

to learn from *Dr. Beddoes* what those facts are? and wherein my plan of treatment differs from that of more successful practitioners?

It has also been alledged that these remedies act not only speedily and certainly, but *tutò & jucundè*. This assertion must, however, be received with some degree of caution: for, now and then, great inconveniencies have arisen from their use; such as violent cardialgia and corroding pains in the stomach, distressing sickness and diarrhœa, a sense of weight and burning in the course of the intestinal canal, accompanied with giddiness, erethismus, and irregular palpitation of the heart and arteries.

Painful experience obliges me to confess, notwithstanding the many instances of lues venerea which are said to have been happily treated by the acid and the potash, that I am perfectly sceptical on this subject, and cannot believe either of them to have succeeded completely *in a legitimate or confirmed syphilis*: for, although I have several times witnessed the disappearance of very bad symptoms, and been highly gratified by my apparent success, I have, sooner or later, in almost every instance, seen either the same or a worse

a worſe train of evils recur; and, in a few caſes, this has happened even before the patients had diſcontinued their medicines. The moſt clear and palpable evidence, after numerous trials, has therefore compelled me to adopt an unfavourable concluſion.

The narrow limits I have preſcribed to myſelf in drawing up this memoir, allow me only to add, that nothing but the high reſpect I owe to the public opinion, which has been ſtrongly and prematurely biaſed in favour of theſe remedies, could have encouraged me to deviate thus far from the eſtabliſhed mode of treatment; and nothing but a ſincere deſire to vindicate the truth and prevent the miſchief which muſt ariſe from a number of fruitleſs experiments, could have emboldened me to ſtep forward in oppoſing that opinion.

Too much cannot be ſaid to diſſuade gentlemen from relying on the "new ſpecific," nor can too great diſcretion be recommended in the uſe of the old one. Mercury, as an antivenereal remedy, has ſtood the teſt of full three centuries; but oxygen, although a more innocent medicine, appears to be only the ephemera of ſpeculative philoſophers.

The editor of a late French publication has

thrown out a judicious hint, with which I ſhall cloſe theſe obſervations. "*Si la médecine en effet eſt ſi peu avancée, ou ſi la pratique eſt en général ſi dangereuſe, c'eſt par l'inexactitude qu'on porte preſque toujours dans l'obſervation des faits; c'eſt par la légèreté avec laquelle on ſe décide en faveur d'un remede qu'on veut mettre en vogue, et dont on eſt toujours diſpoſé à exagérer les vertus.*"

W. BLAIR.

Great Ruſſel-ſtreet, Bloomſbury,
Feb. 12, 1798.

ARTICLE

ARTICLE XXIX.

Case of fatal Termination after the Bite of a mad Dog.

BY MR. JOHN HAYNES, SURGEON, CHIPPING NORTON.

[Communicated by J. C. LETTSOM, M. D. &c.]

Read DECEMBER 19, 1797.

To the MEDICAL SOCIETY of LONDON.

ALTHOUGH I feel a reluctance to crowd your volumes with recitals of single cases, I see no objection to notice such as assist in explaining diseases, the cure of which is still involved in obscurity. For the hydrophobia we have yet no remedy: it becomes, therefore, more interesting to ascertain the means of prevention, and with our inquiries, candidly to exhibit failure of success, of which the

the following Cafe affords a melancholy inftance, agreeably to the relation communicated by Mr. Haynes.

"The fubject of the unfortunate cafe I am about to relate, was fervant to a gentleman in this neighbourhood, who, on the morning of the 9th of September 1793, in offering food to a bitch which had whelps, received a bite from her in the hand. Unfufpicious of her malady, he attempted to ftrike her, upon which the enraged animal bit him a fecond time in the fame hand. An attack fo furious and unexpected a good deal furprifed him, and, upon his mentioning the circumftance to his fellow-fervants, an alarm was excited; the bitch was therefore properly fecured, but not till fhe had in her fury deftroyed her own whelps, and, in the courfe of the day, fhe died in the moft violent ftate of madnefs. Thefe very fufpicious circumftances, one would have expected, would have induced the poor man to have applied for medical aid, but this, contrary to the advice of his friends, he neglected doing till the fourth morning after the accident; he then came for my advice. I obferved to him how imprudently he had acted in not making his application fooner,

fooner, as I was fearful the interval was too long to render any affiftance effectual; I did not, however, hefitate in recommending the immediate excifion of the parts, and this the patient very readily complied with. There were four wounds on his hand and fingers, which, being fuperficial, gave me an opportunity of carrying the knife to a proper depth; they bled freely after the operation, which, I thought, a favourable circumftance; after the hemorrhage had ceafed, I applied a powerful cauftic very freely to the parts, and covered the whole with a digeftive. In wounds inflicted by mad animals, after the ufe of the knife, I fhould, in general, prefer the actual cautery to the cauftic, when it can be fafely applied; but, in the prefent cafe, I thought an active cauftic more fafe and proper, confidering the fuperficial ftate of the wounds, and their fituation on tendinous parts. A liberal ufe of mercury, both internally and externally, was directed, the effects of which were evident on the conftitution in the courfe of ten or twelve days, by the appearance of a gentle falivation; this was moderately encouraged for the fpace of a fortnight longer, when the ufe of mercury was

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omitted. After the ſeparation of the eſchars the wounds were kept open, and a free diſcharge excited from them upwards of a month, by an active mercurial preparation; afterwards all ſtimulating applications were laid aſide, and the ſores very readily healed over. Theſe were the means I adopted in this very unpleaſant caſe (as preventives); and they were ſuch that will, I flatter myſelf, meet with the approbation of every ingenuous mind. Mr. Kingſlake, an ingenious practitioner of this place, ſaw the patient afterwards, and perfectly coincided in the plan of treatment I had purſued.

I had frequent opportunities of ſeeing and converſing with the man for ſome months after; he always met me with a cheerful and ſatisfied countenance, aſſured me he was perfectly well, and never felt the leaſt inconvenience from the injury. The man continued in a ſtate of perfect health, with the canine virus lying latent in his conſtitution, for the long period of nine months. On the 9th of June, 1794, he firſt experienced a ſenſation of tingling in the hand on which the injury had been received, gradually extending towards the axilla. Unſuſpicious of the cauſe of the affection,

little notice was taken of it till the ſecond day of the attack, when more urgent ſymptoms appearing, Mr. Harris, a medical gentleman near at hand, was applied to. On his viſiting the patient, he found matters arrived to an alarming height; to the original affection of the arm, which was now converted into an acute pain, was ſuperadded a frequent and violent convulſive action of the muſcles of the neck and throat, with a moſt diſtreſſing impediment to ſwallow liquids, a quick full pulſe, dry tongue, and every ſymptom of general irritation. Under theſe ſuſpicious circumſtances, Mr. Harris found no difficulty in diſcovering the real nature of the caſe; he immediately bled him, ad deliquium, ordered him an antiſpaſmodic medicine for the evening, with an injunction that he ſhould be kept quiet, and deſired my attendance early in the morning. On my arrival, I found the patient labouring under the ſymptoms of hydrophobia, in their moſt violent and formidable ſtate; the convulſive affection of the muſcles of deglutition was now become almoſt inceſſant, which I obſerved was aggravated by the exertion of converſation and the ſight of liquids. In this deplorable ſtate of

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the caſe, as there was a total inability to ſwallow any thing fluid, a pill, containing two grains of calomel and one of opium, was directed to be taken every two, three, or four hours; according to the effect it produced, a liberal uſe of the unguentum hydrargyri was likewiſe ordered, and the application of a ſtrong anodyne liniment to the fauces. The friends of the patient were appriſed of his real ſituation, and to prevent miſchief, coercive means of reſtraint were directed, if rendered neceſſary by the violence of the paroxyſms. After enjoining theſe cautions, I took my leave, and heard no more of the patient till the ſecond morning after, when I was informed of his death.

The unfavourable termination of the above caſe does not, in my opinion, at all deduct from the merits of the means that were employed, which, could they have been applied ſooner after the accident happened, I have but little doubt would have ſecured the patient from the fatal effects of this ſubtile virus.

JOHN HAYNES.

Aug. 24, 1794.

Mr.

Mr. Haynes, ſenſible of his having uſed the knife freely, ſeems to attribute the failure of ſucceſs to the length of time between the bite of the dog, and the exciſion of the bitten parts, which was only four days. Dr. Ruſh, Dr. Percival, Dr. Meaſe, and other writers are of opinion, that the rabid matter does not produce the diſeaſe by abſorption, and that exciſion will prevent it, provided the operation be performed at any period prior to the appearance of a rabid effect; were this eſtabliſhed, which may admit of a doubt, Mr. Haynes's ſuſpicion would be inadmiſſible. But as the inductions drawn by Dr. Ruſh, and others, have been rather from analogy than facts afforded by rabid caſes, the reaſoning of theſe diſtinguiſhed phyſicians muſt be received with that heſitation which medical experience authorizes. Admitting that the rabid matter were merely local, there ſeems no other way of accounting for the want of ſucceſs in the foregoing caſe, than by ſuppoſing that, with all the caution deſcribed by the ingenious writer, ſtill the exciſion had not penetrated ſo deeply as the fangs or teeth of the mad dog's. I can conceive it very difficult in flaccid parts to effect this with

with certainty, and would repeat here what I have formerly ſuggeſted, the application of lapis infernalis, formed to a point, to be conveyed into the cavity or opening, that had been made by the tooth, and worked deeply as well as laterally, that the parts, as far as a tooth can have entered, may be thus deſtroyed. At the ſame time I do not object to exciſion by the knife, either before or after the application of a cauſtic. It may be aſked why put the patient to the trouble and pain of two operations? The anſwer is evident, that leſt the knife may not remove the parts as deeply as the tooth may have paſſed, for greater ſafety, in ſo deſperate a ſtate, the cauſtic may be preſſed afterwards, if not primarily, into the bottom of the opening, made by the bite and the exciſion.

I do imagine, that the application of any mineral cauſtic in a fluid ſtate, as oil of vitriol, or ſpirit of ſea ſalt, might anſwer the ſame purpoſes as the lapis infernalis, by pervading every cavity that the tooth could poſſibly form, and by deſtroying the fleſh, ſtop the poſſibility of any progreſs of the fatal poiſon.

It is natural for the enlightened practitioner,

tioner, let his experience be ever ſo extenſive, to pauſe over the fatal iſſue of any extraordinary caſe committed to his care, and to ruminate in his own mind, whether any other means, than thoſe already applied, could have promiſed more ſucceſs.

In revolving over the plan adopted in the foregoing caſe, perhaps the moſt experienced practitioners would ſcarcely have deviated from it. The French writers, in that intereſting volume, publiſhed by the Medical Society of Paris, on the Bite of rabid Animals, recommend the practice, as alone deciſive and ſecure. Here was not only cutting out of the parts bitten, but likewiſe a cauſtic application, and finally a ſalivation. The latter remedy has been recommended by ſome writers as ſingly ſufficient to prevent the rabies canina, and all have concluded that exciſion is effectual. But after every exertion, we have here a fatal iſſue, which affords a ſufficient reaſon to attempt the preventive plan recommended, and further confirmed in the annexed paper by Mr. Norris.

ARTICLE XXIX.*

Case of the Bite of a mad Dog.

BY MR. NORRIS, SURGEON TO THE CHARTER-HOUSE AND GENERAL DISPENSARY.

Read DECEMBER 19, 1797.

ON Monday evening the 10th of June, 1793, Mr. Thaine came to consult me on account of some slight wounds that he had received on that day by the bite of a dog. The wounds were a laceration on the outer and inner sides of the forefinger, extending from about the middle of the first phalanx to the extremity of the finger; two superficial scratches on the back of the hand, and one on the inner side of the thumb near the palm of the hand.

I covered the parts with a little soft cerate, and informed him that the wounds were so trifling as to require very little attention.

But as it appeared that the creature had snapped at him without having been provoked, I advised him to see it, and examine whether it was in good health. The next morning he told me that he had seen the dog, who ate and drank as usual, was very quiet, and appeared to be perfectly well; that she had no foaming at the mouth, nor was her breathing quick, nor her eyes watery, circumstances which

which I particularly desired him to attend to. Having, therefore, nothing to mind except the trifling wounds already mentioned, I desired not to see him again until Friday; but on that day he called upon me very early, and was much alarmed.

He informed me that he had seen the dog the night before, that it was restless and unwell, and that it had bitten the maid-servant, an horse, and a pig. As he wished me to see the dog, I went in the course of the day to Turnham Green, where it was. She was a large sized mongrel, between the Newfoundland and the common mastiff breed, of what age I could not learn, as her present owner had had her only a year and a half; and I was told that, during that time, she had always been quiet and good tempered, and had never done any harm until she bit this gentleman.

Her look was downcast and sullen, her eyes, from which a clear fluid trickled, appeared heavy and languid, by no means red or inflamed, her tail was drawn between her legs, and she seemed to be extremely anxious and uneasy, frequently going to the length of her chain and lying down, then, in the course of a minute after, rising and changing her posture. Two or three times she went to some

ſome water that had been placed near her, took a lap or two and then quitted it. Some bread being thrown to her, ſhe chewed and ſwallowed it, but it was immediately after vomited, and ſhe again ſwallowed and threw it up as before. During a quarter of an hour that I ſtaid examining her appearance and motions, I obſerved that ſhe dunged three or four times, and immediately after ſwallowed, or attempted to ſwallow, the fæces, which were ſoft, whitiſh, and frothy.

Theſe were the principal circumſtances reſpecting the dog that I thought worthy of being noted, except that, by the account of the people of the houſe, the creature had within the laſt three days ſhrunk and become ſurpriſingly thinner. On the following day ſhe died, and I was informed that before her death there had been a diſcharge of ſlimy matter from her noſtrils, and that her mouth had been foamy, neither of which appearances I could diſcover the day before. I judged it the more neceſſary to give this account of the manner of the dog, as well as of the ſymptoms ſhe laboured under (which, as I was in a place of ſafety, I could deliberately attend to), becauſe ſuch an opportunity, I believe, rarely occurs: a poor dog, that has the

the character of being mad, is either quickly destroyed, or else is so frightened by being hunted, pelted, and worried, that the genuine undisturbed progress of the disease cannot often be ascertained.

Although not perfectly satisfied of this being the true *rabies*, yet it seemed to be sufficiently probable to justify me in recommending what I believe to be the only certain means of prevention yet known, the removal of the wounded parts. This was, therefore, proposed, and would have been done early on Saturday morning, had not Dr. Sims, who was now consulted by Mr. Thaine, wished first to see and examine the dog. On Saturday the doctor and I went to Turnham Green, but the animal had been dead and buried some hours before we got there, and on this account the operation was not performed until Sunday morning, the sixth day after the accident happened.

I took off the finger at the joint which connected it with the metacarpal bone, and I dissected out the three other small portions, which were so superficially wounded, that it was only necessary to remove the skin. The doctor, in compliance with the wishes of Mr.

Thaine and his friends, permitted the Ormſkirk medicine to be taken, and he preſcribed ſo as to counteract fever.

In conſequence of my requeſt to be informed if any thing ſhould ail the other perſon or the animals that had been bitten, I ſeveral times heard that they continued very well, until Friday the 12th of July, when I learned that the pig, which had been bitten on the noſe, was very ill, and affected as the dog had been. On Saturday Dr. Sims and I went to Turnham Green to ſee it, but it had died that day about one o'clock.

The people informed us that the firſt appearances of illneſs in it had been obſerved on the Thurſday before, when it was ſeen to be almoſt conſtantly ſhaking its head in a ſtrange and unuſual manner, and was very frequently rubbing its throat; that on Friday it lay in a ſtupid ſtate, and did not attempt to do any injury, but that if touched with any thing, it would ſnap and endeavour to bite it. They ſaid that it had been much agitated and convulſed about its belly, which, I imagine, was merely the effect of a quick and laborious reſpiration that I underſtood it had been diſtreſſed with.

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The owner of the dog immediately after the death of the pig, ſent the ſervant and horſe to be bathed in the ſea, and I have been informed they continued well. But it is proper to obſerve, that the horſe's ſkin was not divided by the dog's teeth, and that the injury received by the ſervant was ſo very ſuperficial as that the blood barely appeared upon the part.

From the event of this caſe, and that of ſeveral others in a great degree ſimilar, I am ſtrongly of opinion, that by the removal or deſtruction of the wounded parts, *at any time previous to the appearance of the diſeaſe*, the dreadful effects from the bite of a rabid animal may be obviated.

In at leaſt a dozen inſtances in which I have thus acted at various periods, from one day to a fortnight after the bites of animals ſuſpected to have been mad, all have terminated well except one. This was the caſe of a poor boy that was brought to me within an hour after having been ſlightly bitten on the face; as from the report of the people who came with him, it ſeemed highly probable that the dog had not been mad, I contented myſelf with rubbing the part with the

lunar cauſtic. Three months afterwards, this boy died of the hydrophobia under the care of my friend the late Dr. Crawford.

It occaſionally happens that the bitten parts do not eaſily or ſafely admit of extirpation by the knife; and ſometimes the timidity of patients is ſo great as to prevent the uſe of that inſtrument. In ſuch caſes I recommend the application of the moſt concentrated vitriolic acid as ſuperior to all other cauſtics, by its poſſeſſing the advantages of acting inſtantaneouſly, and not being diſpoſed to ſpread, and alſo of its being capable of being readily conveyed by means of a probe through all the ſinuoſities of the moſt lacerated wounds.

ARTICLE

ARTICLE XXX.

History of an Empyema terminating fatally.

BY J. C. LETTSOM, M. D. &c.

Read OCTOBER 9, 1797.

IN the third volume of the Memoirs of the Medical Society, page 123, a case is related, the symptoms of which were so analogous to the present, that, like its prototype, I once expected would have terminated favourably; for, it may afford satisfactory information to add here, that the young gentleman whose case I allude to, has since enjoyed perfect health, and manly vigour.

The disease of the present subject commenced on the 27th of April, 1795, at the age of seven years. Previously to this time, he was a fine grown healthy boy, fond of exercise, and appeared at his age rather athletic than otherwise; he used to eat heartily, and with little mastication; which sometimes demanded evacuants, and cooling medicines; but

but beſides theſe, little attention was requiſite. He was very well on the preceding day of attack, and had dined with his parents, perhaps with indulgence of appetite; however, on that evening, after being taken a little diſtance, as uſual, to his ſchool, he felt indiſpoſed, and early in the morning of the 27th, there was ſo much oppreſſion about the ſtomach, as to induce the ſurgeon who attended, to adminiſter an emetic; during the operation of the emetic much indigeſted matter was diſcharged, and a conſiderable quantity of ropy mucus, with ſome ſtreaks of blood. He was on the ſame day removed to London again, and in the evening I viſited the patient; whom I found troubled with cough, pains of the ſtomach, dyſpnœa, a coſtive body, and a high degree of fever, with vomiting of blood occaſionally. A laxative medicine was immediately given, blood was taken from the arm, and cooling medicines, and fluids as nouriſhment were recommended.

It would be uſeleſs to enumerate the various minutiæ attending this tedious caſe. The expectoration of blood continued for many days, although a rigid perſeverance in antiphlogiſtic remedies and diet, with occaſional

ſional bleeding from the arm, and bliſtering the ſternum, were adopted; the pulſe ſeldom fell under 120 ſtrokes in a minute; the difficulty of breathing was diminiſhed, but not removed, and the cough was frequent, ſometimes with expectoration of mucus, but not latterly of blood.

Towards the concluſion of May, the patient had become extremely weak, and the pulſe ſeldom under 140 in a minute; the breathing was more difficult, and every ſymptom of approaching diſſolution was preſented. About this time an enlargement of the left ſide of the thorax became perceptible; it gradually increaſed, and at length appeared to Mr. Blicke, ſurgeon of Bartholomew's hoſpital, who now attended, to be likely to ſuppurate. On the 9th of June, it was ſo prominent, and a fluctuation of matter ſo obvious, that he judged it requiſite to make an inciſion between the ſixth and ſeventh rib into the tumour; it was ſucceeded by a diſcharge of about a pint and a half of pus.

Although the debility remained the ſame, the breathing was not ſo laborious; the pulſe became ſlower, and a fairer proſpect of recovery preſented; day after day the ſymptoms

of danger diminiſhed; the purulent diſcharge was, however, ſeldom leſs than two large ſpoonfuls a day; and ſometimes, without any change in the complaints, it increaſed to a quarter of a pint; this quantity, at leaſt, was diſcharged about the beginning of July; on the next day, there oozed through the opening a little mucus only; and from this period, the diſcharge greatly diminiſhed; frequently, however, it was purulent, though rarely in any conſiderable quantity, and in Auguſt it was ſcarcely perceptible; the child was now able to walk out. The opening was occaſionally enlarged from a tendency to heal; to prevent this, a little canula, or a doſil of lint was introduced. Air, in the act of inſpiration and exſpiration, conſtantly ruſhed in and out through the perforation, with more or leſs velocity; it was ſometimes ſo conſiderable, as to extinguiſh a ſmall candle, upon coughing.

During the autumn of 1795, and the winter of 96, the health of the child was conſiderably reinſtated; he recovered fleſh and ſtrength; the appetite was good, and the ſpirits cheerful; but the breathing was not ſo free as natural, although he could lie down

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in any poſition; nor was the pulſe ſo calm as in health; it was under 100, but rarely 70, and occaſionally quicker.

The diſeaſe was accompanied with but a ſlight cough in general; on taking cold it was, however, ſometimes very troubleſome, though little expectoration reſulted.

In the ſpring of 1796, the wound continued to ooze out a little purulent diſcharge, the pulſe was rather quicker, and frequent ſlight feveriſh ſymptoms occurred; when theſe were mitigated the debility continued, or rather augmented. It was hence thought adviſable, in the ſummer of 1796, to try ſea air and tepid ſea bathing, and he was removed from the vicinity of London to Ramſgate, for this purpoſe.

It would not, I preſume, be eſſential here to detail the various remedies exhibited during a long and painful illneſs, not only under my immediate direction, but alſo in conjunction with Dr. James Sims and Dr. Latham, with the unremitting care of Mr. Midford. During the inflammatory ſtate of the diſeaſe, bleeding, local and general, were adopted, with laxatives, and a general antiphlogiſtic treatment, with reſpect to diet, as well as medicine.

medicine. Afterwards alteratives, ſuch as mercurials, and cicuta, were variouſly exhibited, with neutral ſalts and antimonials. In the ſtate of debility the Peruvian bark, ſolutions of ſteel, and alſo of myrrh, were employed. External general bathing and local fomentations were recommended.

Theſe were varied according to the ſymptoms of fever, of dyſpnœa, debility, and other circumſtances of the patient.

On the 22d of June he was firſt ſeen by Dr. Powell, then on the ſpot, and from his notes the following hiſtory of the progreſs, fatal termination of the diſeaſe, and ſubſequent diſſection, are taken.

He was now much emaciated, and ſo weak, as ſcarcely to be able to walk acroſs a room; his breath ſhort, and any exertion brought on fits of coughing, from which he was generally free during the night; a conſtant ſenſation of huſkineſs in the throat; the face had a ſort of preternatural fulneſs, and the lips and fingers a purple tinge, particularly before coughing; this, however, varied much in its degree, and ſometimes did not exiſt at all. Pulſe not leſs than 120, and very ſmall. Tongue very tender, and covered with irregular patches of a white cruſt,

but this might partly depend on the teeth, which were rugged and bad. He lived almost entirely on affes milk. Body coftive. No regular heat or perfpiration like hectic, but occafional flufhings, and efpecially in the face. The wound ftill difcharged fmall quantities of fweet and healthy pus.

As confiderable heat and coftivenefs had attended the ufe of fmall dofes of opium for fome days previous to this time, cicuta was fubftituted for it, and its dofe was increafed to gr. v. thrice a day, with evident advantage, as far as the cough and hufkinefs were concerned, till July 10, when he thought it unpleafant, and that it occafioned ficknefs, and therefore refufed to continue it. He was not grown weaker, and his appetite was improved, for he wifhed for animal food, and no objection appeared to indulging him; nor did it produce any inconvenience, except that a violent fit of coughing once followed immediately upon his meal. The difcharge from his fide had continued unaltered, and his body had been more regular, but his pulfe had never funk below 120.

On the 24th of July there was more blacknefs about the lips and fingers, with more

frequent recurrence of dyſpnœa, diminution of appetite, and irregular alternations of heat and cold. Bark was ordered, with acids, but as they affected his bowels, they were not long continued; and it ſeemed that much of the preſent exacerbation depended upon the weather, which was ſtormy, and the wind blew for many days with immenſe force immediately upon their houſe, which was in an elevated ſituation, directly over the ſea. It was therefore recommended that ſome leſs expoſed ſituation ſhould be tried, and he was accordingly removed from Ramſgate to a well ſheltered houſe at Margate, and, for ſome days, his breath was conſiderably improved by the change; but, on Auguſt 14, he had a moſt dreadful attack of ſuffocation. The nurſe on returning to the bed, where ſhe had left him apparently eaſy, found him cold and motionleſs, with a deep blackneſs over his face and hands; from which ſtate he began to recover on being moved quickly. I found him oppreſſed in his breath to a moſt diſtreſſing degree, with his face turgid and purple, and his pulſe very quick, and ſo weak, as to be ſcarcely diſtinguiſhable. Some white wine was given at the ſpur of the moment, and it revived

revived him and alleviated his dyſpnœa; and when another fit ſeemed approaching, it was again given, and prevented it in a conſiderable degree. Some volatile medicines were therefore ordered, and Dr. Reynolds was requeſted alſo to ſee him, when it was concluded to give him ſome ſaline medicine, with cicuta out of decoction of bark, and the occaſional uſe of his volatile medicines was alſo permitted, and to take away ſome blood by cupping; and, unleſs relief was obtained, to take ſome alſo from the arm; and as none of his ſymptoms had remitted, ℥iv. were taken the next morning, the craſſamentum of which coagulated very looſely, and was broken down by the ſlighteſt touch. About mid-day the return of his ſuffocation was more frequent, his face pale and full of anxiety, and he could only breathe when ſupported upright, and had frequent ſpaſms of the muſcles of the face and of the arms. The more ſtimulating plan was therefore again adopted. His cheſt was bliſtered, and with his volatile medicines muſk alſo was given. Of the former he took moſt liberally, and ſeemed to be much relieved by its uſe; for ſix days he had never taken leſs daily than ſpir.

ſpir. ammon. comp. ſpir. lav. comp. āā ℥ſs. out of cinnamon water; and the only food he took was a thick ſpermaceti mixture. On the night of the 20th he appeared faſt approaching to his diſſolution. The pulſe was not perceptible, except now and then, in the ſmalleſt poſſible undulations. The face and extremities were pale and cold, and no medicine could be got down. By keeping a toaſt ſoaked in white wine in his mouth, by the application of bliſters and gentle frictions, he again rallied, and it appeared that in 16 hours the wine given him had amounted to five pints. He felt on the morning of the 22d, tolerably well; his pulſe was little above 100; his breath eaſier; he had dreſſed himſelf, and paſſed a natural copious evacuation; he took ſome breakfaſt, amuſed himſelf as uſual, and was carried out. I gave him myrrh and ſteel in tolerable quantities, and he went on without any return of his ſuffocation till the afternoon of the 26th.

He had been out a good deal, and had taken a ſufficient quantity of food, but after dinner he leaped ſuddenly from the ſofa, and for ſome minutes exerted more ſtrength than his mother and two nurſes could overcome; after

after this his ſuffocations and difficulty of breathing came on as before.

Although his ſenſes were perfect, his countenance, his difficulty of breathing, and the vaſt ſize to which his legs had ſwelled within a very few hours on the 28th, ſhewed that he could not long exiſt, and he died early in the morning of the 29th.

The body was examined by Mr. Gilder, ſurgeon, and the following appearances were obſerved. Externally the left ſide of the thorax was ſomewhat more depreſſed than the right, which proceeded chiefly from a diminution of the pectoral muſcle on that ſide; between the ſixth and ſeventh ribs there was a depreſſion more ſtrongly marked. The abdomen was much diſtended with air; but its whole contents were perfectly free from any appearance of diſeaſe.

In the right cavity of the thorax, and in the pericardium, there was no more than the uſual quantity of fluid.

The heart ſeemed perfectly healthy.

The right lung was loaded with blood, and, probably, of larger relative proportion than was natural; one very ſmall cheeſy tumour was found in the lower part of it, but to

to the eye, and to the touch, the whole gave a general idea of health.

Before the examination of the left lung a probe was introduced, and paſſed very readily from the opening between the ſixth and ſeventh rib.

The left lung adhered very ſtrongly to the forepart of the ribs, and on diſſecting it away, a cavity came into view into which the probe had paſſed, and which was bounded by ſtrong adheſions of the lung to the ribs, from the firſt to the ſeventh, to the ſpine for the ſame length, and to the diaphragm; from this cavity the matter had proceeded during his life, and ſome, the quantity of which an accident prevented us from meaſuring, was now found in it, but it was not more than a tea-cupful, and differed from the former diſcharge only in being more watery.

The lung itſelf was compreſſed into a very ſmall ſpace, and the ſubſtance of it had no communication with the abſceſs; it did not expand on being blown into, contained no air in its cells, and muſt have been totally uſeleſs. The pleura was deſtroyed, and there did not appear to be any natural proceſs going on for repairing the injury.

ARTICLE XXXI.

Extract of a Letter from Dr. Patterſon, *of* Londonderry, *dated July* 26, 1793.

A CURIOUS ſpecies of rheumatiſm has prevailed in this city, this ſpring and ſummer; its peculiarity conſiſted in its ſtrongly affecting the diaphragm, as pointed out by painful ſtrictures around the thorax, following the attachments of the muſcles of the midriff, producing much ſpaſmodic dyſpnea, and anxiety about the præcordia. The head was free from pain, and the ſtomach very little diſturbed. A profuſe ſweating attended; thirſt variable; urine natural; bowels confined. Some ſlight inflammation, ſwelling, and pain, affected the feet and ancles, which often varied, and frequently entirely diſappeared. Fleeting pains, from time to time, attacked the arms, ſhoulders, fingers, and neck. Sleep, during the whole courſe of the diſeaſe, ven with the help of opium, was trifling and incomplete.

 The

The ſweatings, although profuſe, did not ſeem to haſten the termination of the diſeaſe. The pulſe was in general, eſpecially at the beginning, remarkably ſlow, not exceeding 72. At the ſame time it was ſmall, obſcure, and frequently unequal. When the firſt change for the better took place, the pulſe felt exactly like the pulſe of a perſon recovering out of a long typhus-fever. After this change the pulſe grew quicker than before, and mounted, for a few days, up to 94, ſubſiding again as the perfect recovery advanced. The diſeaſe laſted from four to ſix weeks.

At the beginning, large doſes of Aq. ammon. acetat. with Tinct. Opii & Vin. antim. tart. were adminiſtered. Afterwards, in the middle ſtate, Volatile Alkali and Opium had the beſt effect. And towards the decline, ſtrong preparations of Cinchona, and a continuation of the opium, were moſt uſeful. Wine was more employed in the firſt and middle ſtages, than in the laſt. Bliſters were remarkably ſerviceable. A bandage round the thorax was alſo of eminent advantage. Bleeding was not uſed; and evacuations by the bowels very cautiouſly.

Account

Account of the Weather at Londonderry, 1793.

The winter was, in general, what is called an open one. The thermometer was not obferved to defcend lower than 33°.

April was dry, but cold; the prevalent wind coming from the north-eaft, with fome days of hail, fnow, and hoar froft.

Barometer - - -	higheft - - - -	30.38
——— - - -	loweft - - - -	29,12
Thermometer - -	higheft - - - -	57°
——— - -	loweft - - - -	36°
Hygrometer—De Luc-	wetteft - - - -	62½
———	dryeft - - - -	53½

May, the wind in general moderate, but fome frefh breezes, and the prevalent point north. The weather was cold, yet chiefly dry. One day, the latter end of the month, we had two fhowers of hail; and two days foggy.

Barometer - - -	higheft - - - -	30,42
——— - - -	loweft - - - -	29,02
Thermometer - -	higheft - - - -	62°

Thermometer	lowest	47°
Hygrometer	wettest	59°
———	dryest	50°

June, a wet, cold month; wind, in general, moderate, and most frequent from north-west. One day we had distant thunder, accompanied by large hail.

Barometer	highest	30,30
———	lowest	29,25
Thermometer	highest	62°
———	lowest	50°
Hygrometer	wettest	57°
———	dryest	52°

ARTICLE

ARTICLE XXXII.

Caſe of an Ophthalmia cured by the Application of Oleum Terebinthinæ.

Read February 6, 1797.

St. Petersburgh, Nov. 11, 1796.

MY DEAR BROTHER,

The courier not ſetting off ſo ſoon as expected, gives me an opportunity of informing you by what means my eyes have been cured. But I muſt mention what operations I had gone through; I was firſt bliſtered on my back ſeventeen times, behind my ears eight times, bled with leeches under my eyes, and at my arm five times, cupped, and poulticed; I alſo uſed various things in bathing my eyes, and was very frequently purged during the ſpace of fifteen months, while the inflammation continued; and upon the upper eyelid of both my eyes there were large round ſwellings, which ſometimes I have thought I have moved with my finger; under my

my right eye, there grew upon the lid a white ſcaly ſubſtance about the ſize of a pea; this would often ſlough off and another would ſucceed; my left eye was cloſed for ſeveral days together; the light was very painful, which obliged me to wear green ſilk before my eyes continually. Happily for me, I came into the room where Mrs. Hynam was uſing ſome ſpirit of turpentine; in leſs than three minutes I exclaimed, Good God! the pain in my eyes is gone! From this very ſingular effect I uſed the ſpirit in the following manner; I poured ſome in a ſaucer, and held it under my eyes; the evaporation of the ſpirit made my eyes ſmart and look more red than uſual. I continued this manner of uſing it three days together; on the evening of the third day I wetted a rag with the ſpirit, and very lightly touched both my eyelids with it; it ſoon occaſioned a violent inflammation and ſwelling, ſo much ſo, that I was obliged to waſh the ſpirit off with milk, yet the inflammation continued all the following day, and a conſiderable degree of itching ſucceeded; my eyes the next day were better; for two days after I uſed the evaporation only, I then reſolved again to wet my

eye-

eye-lids with the ſpirit, and to bear it all night, however great the ſmart ſhould be, and it was pretty much indeed, I got no ſleep; in the morning my eyes were ſwollen and very red; my friends blamed me much, however, I conſoled myſelf with the hopes I ſhould receive benefit from it, this ſecond time of bathing or wetting my eye-lids with the ſpirit. I had, after the inflammation was leſs, a greater degree of itching than the firſt time, and it continued longer; but when they both ceaſed, to my inexpreſſible joy, I found my eyes much better; I continued to uſe the evaporation, and once more the bathing, when I found my eyes as well as they have been for ſome years paſt; the ſwelling on both eye-lids is quite gone, and alſo that ſcaly ſubſtance I mentioned. In the uſe of the ſpirit there ſhould be confidence and reſolution.

Thirteen days effected a cure; fifteen months I was tortured both in body and mind without the leaſt appearance of amendment. You will uſe this as you pleaſe.

I am, dear Brother,

Yours, moſt affectionately,

ROB. HYNAM.

Mr. Hynam, Surgeon,
Ratcliff Highway.

ARTICLE

ARTICLE XXXIII.

An Obſtruction of the Œſophagus removed by a Tobacco Glyſter, on the third Day after the Accident.

BY MR. BLAIR, SURGEON of the LOCK HOSPITAL.

Read APRIL 30, 1798.

A MAN, who had ſwallowed a morſel of beef more than half way down the œſophagus, ran immediately to a neighbouring apothecary for relief. After uſing the probang without any ſucceſs, this gentleman adminiſtered an emetic, in hopes of making the patient reject the portion of meat during the effort of vomiting: but, as he was unable to ſwallow any liquid, no good effect followed the exhibition of the draught.

In this deplorable ſtate the man remained until the third day; and then applied to me, at the Finſbury diſpenſary, for aſſiſtance. I thought it proper to try the probang; but uſed

ufed it with no better fuccefs than the apothecary had done: for every time I paffed this inftrument, the patient was thrown into a moft violent ftate of fpafm, and feemed to be in danger of immediate fuffocation. The probang was urged downwards as forcibly as I dared to venture, without rifking an injury and rupture of the œfophagus: being reduced to this dilemma, and the man being in danger of perifhing, I prefcribed him an infufion of a dram of tobacco to be injected *per anum* as foon as poffible, with the view of exciting ficknefs and vomiting. The experiment fucceeded: the patient brought up the piece of meat, and recovered, in a few days, from the inflammatory fymptoms occafioned by the accident, or by the means ufed to relieve him.

ARTICLE

ARTICLE XXXIV.

Case of a Child born with Variolous Pustules.

By MATTHEW FLINDERS, Surgeon,
Donington, Lincolnshire.

Read October 30, 1797.

Mrs. Stimson, of Quadring, Lincolnshire, about her 30th year, of a robust and rather plethoric habit, in the last month of her fourth pregnancy, was bled on May 27, 1797; a few days after she was taken with fever, pain in the back and head, and the usual symptoms consequent on variolous infection, but that cause was not suspected at the time, she supposed labour might probably be coming on. An anodyne, in rather a full dose, was given, with the view of abating false, or bringing on true pains; it produced no relief, the symptoms continued about three days, when a fine distinct variolous eruption made its appearance. She had about 50 pustules in the face, and it may be about

300

300 in the whole; the diſorder paſſed through its regular ſtages, without any diſagreeable ſymptoms; fever and pain went off; ſhe had a ſlight ſore throat, for which I gave her ſimple oxymel, and a few mild opening medicines, when coſtiveneſs required; ſhe had an anodyne for a few nights towards the ſtate of the diſeaſe, to obviate irritation. The puſtules made their appearance on June the 3d, and obtained their perfect maturation on the 10th and 11th. On Sunday, June 18th, ſhe was taken in labour.—I attended; ſhe had a good natural labour, of not more than three hours continuance, being much quicker than any of her former labours; the child was a fine boy, to all appearance at its full period, with variolous puſtules regularly ſpread over the whole body; there might be 30 or 40 in the face, the body and limbs in the ſame proportion, much in the ſame manner as the mother, a fine diſtinct pock; maturation had commenced in ſome of them, to my apprehenſion they might want about two days of their full ſtate. Conſidering the very different temperature of the infant's late and preſent ſtate, I deſired the nurſe to keep it rather

rather warm, as from the moderate eruption, it did not appear to me that heat, in moderation, would be detrimental. The child continued well the firſt day, cried ſtrongly, took ſome pap; the next morning, June 19th, took the mother's breaſt plentifully; it became ill ſoon after, breathed with difficulty, the pock flatted, and the infant died at night, which I cannot but regret, as a living inſtance of a child coming into exiſtence, with variolous puſtules, would have added to curious ſimilar caſes already on record. I have ſimply ſtated facts, and pretend not to aſſign the cauſe why the fœtus in utero, ſometimes takes the variolous infection, and ſometimes eſcapes it, though in each caſe it be equally expoſed to it.

ARTICLE XXXV.

On the Fever of Demerary.

By —— BEANE, Surgeon in the Army.

Read May 29, 1797.

Review of Soil, Seaſons, &c.

The colony of Demarary is ſituated about ſeven degrees to the northward of the equator, and fifty eight to the weſtward of London.

Like Holland, in Europe, it is a low marſhy country, the ſea being kept out by means of dams; without this precaution it would be conſtantly under water, as at ſpring-tides the ſurface of the water is two feet above that of the land. Each dwelling-houſe is ſurrounded, and each plantation cut through, by large dams, or ſmaller drains, which are full of water at high tide, but have

have little or none in them at low tide, then leaving a large ſurface of mud expoſed.

The plantations extend in ſlips from the ſea coaſt and ſhore of the river about one mile and a quarter; from the bottom of them the land is entirely covered by a thick impenetrable wood, called by the inhabitants the *Buſh*; this is conſtantly under water. The ſoil is clay, rendered mud by a few hours rain. No gravel, nor ſand for nearly an hundred miles up the river, you there firſt meet with ſand hills.

Seaſons.

The ſeaſons differ from thoſe of the iſlands. From the middle of April, to the latter part of July, is the rainy ſeaſon; the rains fall very heavily at this period, and the water, collected in tubs or ciſterns, furniſhes them with a ſupply during the dry ſeaſon. Auguſt to September is the dry ſeaſon; about Chriſtmas they have five or ſix weeks again of rains (called by the inhabitants the *ſhort rains)*; theſe being terminated, they have a ſecond dry ſeaſon to the middle of April.

Seaſon of Sickneſs with the Inhabitants.

The ſeaſon of ſickneſs with the inhabitants is principally in the months of Auguſt and September. This themſelves attribute to the termination of the rains, and the increaſed influence of the ſun; which, arriving from the northward, becomes directly vertical in the beginning of September. The fever with them is intermittent in all its types, or remittent. In theory it would appear that the exciting cauſe of the diſeaſe reſident in the mud, was in the rainy ſeaſon ſo much diluted as to poſſeſs much leſs force than it does after the commencement of the dry ſeaſon; the ſun then exerting its influence, raiſes it in a more concentrated force, making it more active in attacking, and more violent in its effects. After a certain time the heat gives a dry cruſt to the ſurface, keeping it pent up. Diſeaſe after this becomes leſs frequent.

Thus it was with the inhabitants; but the ſubjects from whom the following remarks were drawn, were ſoldiers recently arrived from Europe.

The

The Fever of May.

In the months of May, June, and July, a fever of a mildly inflammatory kind prevailed, which was in ſeveral inſtances ſucceeded by a flux; but the greateſt number of the patients ſoon recovered, in the uſe of the means commonly employed on theſe occaſions.

Yellow Fever, and Fever with extreme Reſtleſſneſs.

A few caſes, however, occurred with the moſt violent, and, I may ſay, with the moſt malignant ſymptoms, both with and without yellowneſs, particularly extreme reſtleſſneſs; in ſome, from the inſtant of the attack; in others, it went on like the mild fever, in the firſt paroxyſm and remiſſion, when a ſlight yellowneſs ſuddenly began to make its appearance in the eyes, face, and neck, extending gradually over the whole body; ſome died without any remarkable ſymptoms, except the yellowneſs, apparently ſinking from exceſſive debility; very great irritability of the

the ſtomach attended ſome, but (if I recollect right) in others it was abſent even to the hour of their death. In thoſe who were upon their firſt attack ſeized with the extreme reſtleſſneſs, it attended them till their death: this was a curious and a very dangerous ſymptom, and in ſome who died with it was the only alarming one.

The Subjects, &c.

The ſubjects of fever with this fatal ſymptom, and of fever with yellowneſs, and other malignant ſymptoms, either with or without the reſtleſſneſs, were, for the moſt part, men of groſs, fat, and full habits, and particularly addicted to the drinking of ſpirituous liquors.

Typhus Fever.

A few ſolitary inſtances occurred of typhus fever; the ſubjects of it were lads of a ſlender delicate make; it could not by any means be attributed to infection, nor did it extend itſelf.

Bleeding from the Nofe.

Nafal hemorrhagy was a common fymptom in the advanced ftage of the difeafe, and a very unpleafant one; but afterwards, when bleeding was more generally ufed, this fymptom was rarely obferved.

Latter part of July, malignancy of Fever highly increafed; Yellow Fever.

I come now to that period in which the difeafe fhewed itfelf in the moft malignant form. After the middle of July, the rains had fubfided confiderably, and the fun began to exert its influence in exhaling the more aqueous parts from the mud, leaving it in a ftate more adapted to the production of difeafe. The remiffions were now extremely obfcure, they appeared in fome meafure to depend upon the force of the acting caufe, or the predifpofition of the patient; hence, while the rain fell, the *vapour* which arofe from the mud was fo much diluted, that it produced only a mild remitting fever; and, at this time when more concentrated, in many patients whofe

whoſe conſtitutions it would appear were leſs diſpoſed to receive the diſeaſed actions, it could only form a remitting fever of the former mild nature, or even an intermittent.

The Cauſe of the Diſeaſe reſident in the Mud.

Several circumſtances tended to prove that a ſomething riſing from the mud was the cauſe of the diſeaſe: the nature of the country; ſentinels being taken ill at their poſts, or ſuddenly attacked on walking paſt a particularly marſhy ſpot, over which the wind blew.

Symptoms of Attack.

The particular changes in the ſymptoms were, a ſtrongly marked determination to the head, upon the firſt attack, the diſeaſe commencing often with violent and ſudden pain above the eyebrows, like a ſhock of electricity; fluſhed face, redneſs of the eyes, vertiginous, or comatoſe affection of the head; a ſmall obſcure pulſe, often ſlow, joined to coma in ſome; pain of the limbs and acroſs the back.

Bleeding and Purging.

In this ſtate, bleeding within twenty-four hours of the firſt attack, or even after that time, relieved the head-ach immediately, and followed up by an active purge, put a ſtop to the further progreſs of the diſeaſe.

Great Determination to the Head.

The violence and ſuddenneſs of the head-ach was peculiar; it ſeemed as if the coolneſs of the air during the wet ſeaſon, from the conſtant evaporation, had determined the arterial action from the head and ſurface to the bowels; but after the commencement of the dry ſeaſon, the extreme heat of a vertical ſun, unallayed by clouds, nor counteracted by evaporation, determined it ſtrongly to the head.

Pain at Stomach, and lower part of the Belly.

To the ſymptoms before mentioned, in ſome was added an oppreſſive pain in the region of the ſtomach, and vomiting of a dark fluid like water poured upon old coffee grounds;

grounds; and towards the latter part of Auguſt, many patients complained of pain in the lower part of the belly alſo; in one ſimilar caſe, all the meſenteric glands were remarkably enlarged, and a line of inflammation ran along the junction of the meſentery to the ſmall inteſtines.

Continuation of Symptoms.—Fatal Symptoms.

After a time ſucceeded burning heat of ſkin, and great irritability of ſtomach; in ſome there was a remiſſion of theſe ſymptoms, but the irritability of ſtomach remained, gradually going off in thoſe who did well, but continuing and increaſing in thoſe whoſe caſes terminated unfavourably; yellowneſs gradually coming on, beginning with the eyes, and extending itſelf to the face, neck, and the reſt of the body. In ſome patients the yellowneſs and exceſſive irritability of ſtomach, were the only remarkable ſymptoms to the time of their death; but in moſt was added delirium, generally of the low, but, in a few caſes, of the active and violent kind, with a great degree of morbid ſtrength; and towards the laſt hours of life, they lay in a

 ſtupid

ſtupid comatoſe kind of way, with a very anxious appearance of the eyes, ſleeping, ſighing, with very deep and laborious breathing, ſpaſmodic affections, as ſpaſmus cynicus, partial ſpaſms of the muſcles of the extremities, quivering of the lips, ſubſultus tendinum, lividneſs and coldneſs of the extremities, a ſudden glow of warmth often upon the ſkin, univerſal convulſions, loſs of pulſe, and death.

Intermitting Pulſe.

Intermitting pulſe in many appeared early in the diſeaſe, and it ſeemed to me moſt commonly to mark local affection. In ſome the yellowneſs did not appear till after death; the natural colour of the ſkin during life appeared to have concealed its exiſtence previouſly to death.

Tongue.

Tongue white, moiſt on the firſt attack; edges, center, or tip, clean, white dry ſcurf ſeldom going through the regular progreſs of typhus, of the gradual inclinations of white to buff, yellow, brown, and black, but ſeemed to loſe the intermediate changes. In ſome it

was

was covered with a moiſt and bright ſaffron coloured mucus, of the conſiſtence of honey; in others, with a brown tar-like covering. One patient after becoming yellow, and being delirious for a conſiderable time, experienced a violent attack of moſt acute pain in his right ſide, ("as if his ſide were torn out,") with ſpitting of blood. After his death, univerſal inflammation of the right pleura was diſcovered, with a pint of deep yellow pus.

Appearance of the Blood in the latter Stage.

Blood drawn in the latter ſtage, exhibited a greeniſh hue on the ſurface; the ſerum was tinged ſtrongly yellow, ſtaining the hands with that colour; the coagulable lymph ſeparated in buff on the ſurface.

Treatment.

The cure in theſe caſes was attempted by bleeding and purging on the firſt attack; as antimonials were rejected by the ſtomach, ſpir. minder. with camphor julep, were employed. Bark was rejected, and when retained upon the ſtomach its uſe was often ſucceeded by an increaſe of yellowneſs upon the ſkin. It is

 of

of principal importance to obſerve, that in yellowneſs and a bad ſtate of the diſeaſe, the patient certainly dies, unleſs ſalivation comes on from the effect of mercury.

Salivation from Mercury.

In the month of Auguſt the diſeaſe was ſo fatal, that to all the patients mercury was given. When ſalivation came on, they were perfectly ſafe; I never knew a patient under ſalivation die. The doſes were gr. iv. vel v.—ad ℈j. 3^{ia} quâque horâ, of calomel in a bolus, according to the urgency of the caſe; I have known a patient ſpitting within twenty-four hours. In ſome patients it did not produce ſalivation, but hemorrhagy from the mouth; it often would keep wavering about the mouth, ſhewing one day ſtrong ſigns of an approaching ſalivation, which would be gone the following day; in ſuch a ſtate, if the patient ultimately died, he lived very many days longer than in the uſual courſe of the diſeaſe.

Diarrhœa from Calomel.

Sometimes the calomel was combined with opium, ſometimes the opium was given occa-

ſionally,

ſionally, as diarrhœa required; but if it did produce purging, it was under the command of opium, unleſs allowed to go to very great exceſs. In general it produced no purging: I remember one caſe in which there was previouſly diarrhœa, and another, in which there was an urgent diarrhœa, and alſo a vomiting; each of the patients took large doſes of calomel; theſe ſymptoms gave way during its exhibition. In a lad a remaining troubleſome pain at the ſcrobiculus cordis, was gradually relieved after the commencement of the ſalivation.

Vomiting.

Vomiting—ſaline remedies ſimply; et in actû efferveſcent; Opium vel Tinct. Opii per ſe; Idem cum Æther.

Conſequence of the Action of Mercury.

Signs and effects of the action of mercury; fulneſs and ſlowneſs of pulſe, ſoft and thrilling; ſenſation of roughneſs in the mouth; teeth ſore; ſtiffneſs of the jaws and teeth; mouth bleeding.

Blood drawn from patients under the influence of mercury, buffed, cupped and contracted.

Pain at the ſcrobiculus cordis, was gradually relieved after the commencement of the ſalivation.

Extreme care ſhould be taken not to let the diarrhœa from mercury go too far, otherwiſe the patient becomes ſo far ſunk, that he is loſt.

Convaleſcents, who relapſe, are liable to a fatal purging in uſing mercury.

Aſtringents for Salivation.

The ſalivation was moſt ſpeedily ſubdued by opiates blended with aſtringents: for this purpoſe ſolutions of alum, or of cuprum vitriolat. cum opio, were employed as lotions for the mouth.

APPEARANCES ON DISSECTION.

Head.

Patches of inflammation were found on the pia mater, under the temporal muſcle.

Water was collected between the pia mater and the tunica arachnoïdes, and in the lateral ventricles.

Points

Points of bleeding veſſels occurred in the medullary ſubſtance of the brain.

Cheſt.—Heart.

Inflammation of the cheſt appeared in every poſſible way, even to the collection of matter; an effuſion of water: the abſorbents of the heart were very apparent in two caſes.

Stomach.

The ſtomach was found contracted, and of a dark purple colour, ſometimes in patches, from extravaſation, or inflammation verging towards gangrene.

Liver.

The liver was yellow and very pale.

Gall Bladder.

Gall bladder, contained green concentrated bile, but was not turgid with it; the portion of the liver, in contact with the gall bladder, was of a dark leaden colour.

Meſenteric

Mesenteric Glands.

Enlargement of the mesenteric glands, with a line of inflammation, extending along the junction of the mesentery to the intestines, in a few cases.

Yellow Colour.

Deep yellow pervading every part, the integuments, cellular and adipose membrane, and even the periosteum of the bones.

ARTICLE XXXVI.

Hiſtory of an Aneuriſm of the Aorta.

BY WM. HUNTER, Eſq. SURGEON, in the EAST INDIES.

IN A LETTER TO

J. C. LETTSOM, M. and LL. D.

Read APRIL 2, 1798.

THE diſeaſe, which conſtitutes the ſubject of the following narrative, is one of thoſe, for the knowledge of which we are indebted to the reſearches of modern anatomiſts. For, although ſome paſſages have been produced, from the writings of ancient phyſicians, which ſeemed to imply an acquaintance with it; the learned *Morgagni* has proved, that all referred to dilatations of the external arteries; and that the firſt aortal aneuriſm, aſcertained by diſſection, was that deſcribed by *Veſalius*, in the year 1557. When we conſider at the ſame time, that in the

the greateſt number of caſes, hitherto recorded, the phyſician was not conſulted, till at an advanced ſtage of the diſeaſe; we cannot be ſurpriſed, that its hiſtory, in the early periods, is ſtill obſcure; and that we are, as yet, unacquainted with any ſign, that can be juſtly called pathognomonic. The uſefulneſs of ſuch knowledge, if it can be attained, is evident. For, though in its advanced periods, this be one of the unfortunate caſes, in which the aid of medicine is wholly unavailing; yet, in the incipient ſtate, meaſures may certainly be taken, whereby life will be prolonged: nay, inſtances are not wanting, wherein, after ſymptoms had come on, that indicated the actual exiſtence of aneuriſm, a cure was accompliſhed *. Whereas, if the real nature of the diſeaſe be unknown, we may be led, by a flattering alleviation of ſymptoms, to a practice which will increaſe the original cauſe, and haſten the fatal cataſtrophe. But this knowledge can be attained, only by recording and comparing the hiſtories of caſes, in which the ſymptoms have been obſerved at an early period. I hope no farther apo-

* Morgagni de cauſis et ſed. Ep. xvii. 30.

logy

logy is neceſſary for offering the following narrative to public notice.

Captain Auguſtus Keppel Dickſon, aged about 36, in general healthy, but of a delicate and irritable habit, when he arrived at *Kanhpoor*, in April 1787, was affected with pains in his breaſt and ſhoulders, which returned at intervals, but did not interrupt his reſpiration, were not accompanied with cough, nor aggravated by any particular poſture of his body. The pulſe was natural. He had had the complaint, in this form, for ſome months previous to his arrival. I began the treatment with antimonial medicines; but finding that he was ſpontaneouſly prone to ſweat profuſely, and ſuſpecting, from the general habit, that the diſeaſe, in a great meaſure, depended on atony and irritability, I ſoon laid them aſide, and had recourſe to a decoction of bark, with elixir of vitriol. This checked the propenſity to ſweat, and rendered the attacks of pain leſs frequent. But, not having completely ſucceeded, I thought of trying electricity, by taking ſparks from the parts affected. At the ſecond time of uſing the machine, the cylinder was cracked, and as another could not be procured, we

loſt the opportunity of giving this remedy a trial.

In a conſultation with Mr. *Laird*, who was then Surgeon Major at the ſtation, it was now agreed on to try *mercury*, which Capt. *Dickſon* ſaid, he had taken with advantage, in a ſimilar complaint, on the coaſt of *Coromandel*. Accordingly he was put on a courſe of the blue pills. They had ſcarcely begun to affect his mouth, when the pains were removed. He was adviſed to continue the uſe of them, for ſome time; but, being free from complaint, neglected it. The pains returned in May; but yielded again on his having recourſe to mercury, in the ſame form as before.

From this time he continued in good health till October, when he underwent great fatigue and anxiety, in preparing a newly-raiſed battalion for being reviewed by the commander in chief. On the day of the review, he got his feet wet, in which ſtate they continued for a conſiderable time. In the afternoon he ſent for me. I found him complaining of ſevere pain in the left *hypochondrium*, which obliged him to lie on the right ſide. His breathing was, in ſome degree,

gree, affected, and his pulſe rather hard. Eight ounces of blood were taken away, he was ordered a cooling regimen, and to take a doſe of cathartic ſalt in the morning. Next day the blood appeared ſizy, and the operation had given ſome relief to the pain. It was repeated, to the ſame extent as before, and a bliſter was applied to the ſeat of the pain. This moved it farther backward, but did not carry it off. Warm fomentations were applied, which gave immediate, and (for a time) complete relief. The pulſe was now perfectly natural, ſoft, and not exceeding 70, ſometimes only 60 ſtrokes in a minute, when he remained at reſt; but it had that readineſs to be affected by every little agitation, bodily or mental, which accompanies nervous affections. The mind ſeemed to partake of the irritability of the body ſo far, that conſiderable agitation was produced by circumſtances which would not have had that effect when he was in health. The belly was regular, but he was troubled with flatulence. The appetite was good. The urine high-coloured, without any ſediment. There was no preternatural hardneſs in the ſeat of the pain, no tumour, or diſco-

 loration.

loration. From theſe circumſtances, and his being eaſy when he lay on the oppoſite ſide, I concluded that it did not proceed from an affection of any of the viſcera; but rather of the muſcular, or the membranous parts, conſtituting the parietes of the abdomen, which were relaxed by the former poſture, and brought into a ſtate of tenſion by the latter. The antiphlogiſtic regimen was continued, but no further evacuations were judged neceſſary, except keeping the belly open, when requiſite, by gliſters. In the mean time various topical applications were made, as a fœtid plaſter, frictions with balſamum ſaponaceum, linimentum volatile, &c. with temporary relief. Muſk was given in the quantity of half a drachm daily. This produced a copious ſediment in the urine, and gave ſome, but by no means a complete, relief to the pain.

A great difficulty we laboured under at this time was, that the leaſt cold air admitted increaſed the pain. Thus it was impoſſible to perſuade the patient to keep himſelf in a cool temperature; and the warmth of the chamber in which he ſhut himſelf up, increaſed his weakneſs and irritability.

tability. At laſt we adviſed him to go into the country; which would have this one good effect, that it was hardly poſſible, in the month of November, to make either a tent, or a boat, ſo warm, as to be hurtful. The coldneſs of the nights he complained of a good deal, and ſaid it aggravated the pains; but he became every day ſtronger, and in the day-time was pretty eaſy.

We now had recourſe again to mercury. *Calomel* was preſcribed, with a ſmall proportion of *tartar emetic*. The firſt or ſecond doſe gave him inſtant relief; ſo ſudden indeed, that I was not altogether without ſuſpicion, that it proceeded from the confidence that the patient himſelf repoſed in the medicine; for he ſeemed, at this time, to be a good deal under the influence of imagination. At any rate, it was evident, that the good effect of the mercury was to be accounted for by an antiſpaſmodic power, or the diffuſive ſtimulus which it communicated to the ſyſtem, and not by the removal of any permanent obſtruction, which would have required a longer time. Hence much advantage was not to be expected from continuing its uſe; and, for the prevention of a relapſe,

the patient was ordered to uſe the cold bath, with moderate exerciſe, and a nouriſhing diet.

From this time he continued well till April 1788, when the pain returned. It was removed by a bliſter, and the repetition of mercury.

It did not return till October. The pain began before day-break in the morning, and went off as the day advanced. Having gone off and returned in this manner, for three or four days, it became more conſtant. A ſtrengthening plaſter was applied to the ſeat of it, with partial relief. Being now thoroughly convinced that the complaint was of a ſpaſmodic nature, and having ſeen the good effect of a change of air and ſituation, I immediately directed him to move into tents, and make ſhort marches, of ſix or ſeven miles a day. At the ſame time I put him upon the following courſe of medicine, which a practitioner, who had attended him in *Calcutta* for a ſimilar complaint, told me had produced an almoſt inſtantaneous cure.

℞ Camphor. opt. ʒi.
Calomel. ppr. ʒſs.
Pil. Saponac. ʒij. M.

Ft

F^t Maſſa, in Pil. xxx. dividenda.
Capt. Pilul. iij. omni nocte h. s.
℞ Pulv. Cort. Peruv. rub. ℥ij.
Coque ex Aquæ pur. ℔ iij. ad ℔ iſs, et ſub finem coctionis, injice.
Rad. Valerian. Sylv. ʒiſs. Cola.
Capt. ℥ij. quater vel quinquies indies.

While he was under this courſe he was ſeized with a ſlight fever, during which the pain was aggraved, and attended, at times, with a throbbing, or pulſation, in the affected part, which could be diſtinctly felt by applying the hand upon it. By a doſe or two of phyſic the fever was removed, and the pain was no longer attended with pulſation. The courſe of medicine above deſcribed was reſumed; but the mercury did not, at this time, produce the ſudden good effect which it formerly had: though perſiſted in till the mouth was ſlightly affected, the pain was not relieved. A bliſter was applied to the part, the mercury was left off, but the bark and valerian continued. The pain gradually gave way, and the entire removal of it, for this time, was accompliſhed, rather by gentle exerciſe, increaſed by degrees, with change of

 ſituation,

ſituation, and amuſement, than by medicine. By the end of December he was perfectly well.

He continued free from pain till about the beginning of July, when the weather was very damp, and a great quantity of rain fell. At the ſame time his ſpirits were ſeverely affected by the death of a friend, to whom, as his patron for many years, he was attached by the ſtrongeſt ties of gratitude and affection. The pain now began to be troubleſome in the night and morning: it was eaſier, but did not entirely go off, in the day. It was ſeated on the falſe ribs of the left ſide, extending from the ſpine almoſt to the ſternum, and ſhifting frequently from the one ſituation to the other. Volatile liniment and dry cupping were applied to the part, with partial relief. About the ninth, he went into the country, and was ſome days perfectly well, on others, the pain was pretty ſevere. On the 21ſt I ſaw him. He had generally ſuffered, in the night, conſiderable pain, which ſometimes deprived him of reſt. In the day-time it was eaſier, and often he was entirely free from it. In other reſpects he was in perfect

 health.

health. He was able to walk or ride, and took pleaſure in theſe exerciſes when not prevented by pain. His fleſh was not waſted; his complexion, though a little pale, was clear, and indicated nothing of diſeaſe. I gave him the decoction of bark and valerian, which before had appeared to have a good effect; and it was, after two or three days, exchanged for the bark in ſubſtance, of which he took half a drachm three times a day.

Auguſt 1ſt, He was free from complaint. On the ſecond, in the morning, he called at my houſe, and ſaid the pain had been ſevere in the night, but was then eaſier. I propoſed, ſhould it return the next night, to apply a bliſter to the part. He was eaſy in the forenoon, and dined at home with a ſmall party. During the time of dinner he complained of pain, which now and then was aggravated by twitches, ſo as to make him ſtart up; and at this time he mentioned to ſome of the gentlemen preſent a ſenſe of pulſation in the part affected. He drank three or four glaſſes of wine at dinner. In the evening the pain increaſed, but not ſo much as to make him apply for aſſiſtance. He rubbed the volatile liniment, as uſual, ap-

plied a wine-glaſs to the ribs, by way of cupping, and about nine o'clock went to ſleep. At midnight he was heard to make a noiſe, which ſome of thoſe preſent compared to the barking of a dog: this was repeated four or five times. A light was brought as ſoon as poſſible, but before it came he was dead. I was ſent for on the firſt alarm, and on my arrival found him without the leaſt token of life.

In the morning, having obtained leave to open the body, I was aſſiſted by Mr. *Munro*, the head ſurgeon of the ſtation. The ſkin on the left ſide, towards the ſpine, was livid. On cutting through the common teguments of the abdomen we found the adipoſe membrane well furniſhed with fat: the abdominal muſcles were in a healthy ſtate: the omentum reached as low as the pubes, and had the uſual proportion of fat. The ſtomach and inteſtines, liver, ſpleen, pancreas, and kidneys, were perfectly ſound. The gall-bladder contained a very ſmall quantity of light yellow bile. On opening the thorax we found its left cavity filled with coagulated blood. We removed 36 ounces of ſerum, and 84 of craſſamentum, which was florid,

and

and of a firm conſiſtence. There was no blood in the right cavity of the breaſt. The pericardium contained only the uſual quantity of fluid, and the heart was to all appearance ſound. The lungs, though paler than uſual, had no marks of diſeaſe. But, on drawing them to one ſide, ſo as to bring the *aorta* into view, we diſcovered a dilatation of its deſcending trunk, which began about three or four inches below the arch. This aneuriſmal ſac was three inches and an half in length, in diameter one and three quarters. Its ſurface was uneven, being protruded into ſeveral little pouches. It had burſt at the lower and fore-part by a large opening: on the right ſide of the tumour the diſtention had taken place in ſuch an irregular manner, that a reduplication of the coats was formed within; and externally, the two ſurfaces, which were applied to one another, cohered.

The patient never told me of any cauſe to which his complaint could be aſcribed; but I am informed, that a little before his death he mentioned to one or two gentlemen, a fall which he had from his horſe about ten years before;

before; ſaying that it occaſioned, at the time, ſevere pain in his back, and confined him to his bed; and that, ever ſince, upon any occaſion of catching cold, he was ſubject to flying pains in his breaſt, ſide, and back *.

The queſtions which naturally offer themſelves to our conſideration on the foregoing hiſtory are theſe:

1. Suppoſing the account above delivered of the fall, and its immediate conſequences, to be accurate, was it the cauſe of the aneuriſm?

2. Were the ſymptoms produced by the aneuriſm, and in what manner?

3. What appears to have been the effect of the treatment which was purſued? and what change ought to have been made in it had the cauſe of the diſeaſe been known?

4. Are there any ſymptoms, or combinations of ſymptoms, in this caſe, which can aſſiſt us in detecting a ſimilar morbid cauſe?

* An officer of rank, who was at the ſtation with Captain Dickſon when this accident happened, has lately informed me, that he remembers the circumſtance; that the hurt occaſioned by the fall was ſevere, and cauſed a long confinement.

I. The

I. The concuſſion which attended the fall ſeems to be an adequate cauſe of injury to the coats of the artery, which may have gradually yielded to the impulſe of the blood, till they could reſiſt no longer. This concluſion derives probability from what Morgagni tells us, that the firſt internal aneuriſm diſcovered by diſſection, had taken its origin from the leap and concuſſion of a fierce and unruly horſe. His obſervation, that the diſeaſe is moſt frequent in guides, poſtboys, and others who ſit almoſt continually on horſeback *, though not ſo immediately concluſive, is yet, in ſome degree, applicable. For the effect which in them reſults from long continued and frequent concuſſions, may reaſonably be expected from thoſe which accidentally occur with greater violence.

II. At the beginning of the attack, in October 1787, the pain was attended with ſome inflammatory ſymptoms; but at all other times it was judged, by almoſt every medical gentleman who ſaw the patient, to be purely

* It is a remark in Hindoſtan, that Camel-Hircarrahs are in general ſhort-lived. It might be an object worthy of inquiry, to diſcover whether internal aneuriſms are a frequent cauſe of death in that claſs of people.

of

of the nervous kind. This opinion was founded on the following reaſons.

1. The naturally irritable habit of the patient.

2. The pulſe, in general, rather ſlower than in health, though frequently varying its quickneſs and ſtrength, and eaſily affected by bodily exertion, or mental agitation.

3. The ſtate of the mind more variable and fanciful than in health.

4. The pain being brought on, or aggravated by mental affections; its frequently ſhifting its ſituation, and appearing to be, in ſome meaſure, connected with the flatulent affection of the ſtomach.

5. The ſucceſs of tonic remedies, a generous diet, exerciſe, and amuſement, in removing it.

6. The want of ſymptoms, indicating affection of the viſcera.

7. Even in October 1788, when the febrile attack was attended with a ſenſible pulſation, that pulſation was temporary, and returned at irregular intervals. And we know that a pulſation, ſynchronous with the arterial ſtroke, more conſtant, and of longer continuance than this, has been felt in caſes where,

where, the patient dying of another diſeaſe, no aneuriſm could be found on diſſection. Several inſtances of this kind occur in Morgagni. And I ſaw a patient, nine years ago, who had in the umbilical region, ſo ſtrong, regular, and conſtant a pulſation, as appeared hardly reconcilable to any other ſuppoſition, than that of an aneuriſm of the *aorta deſcendens*, or ſome of its larger abdominal branches. Yet this perſon is now alive; and, as I am informed by a medical gentleman who formerly attended, and has lately examined him, is in good health, with no ſymptom of his former complaint, unleſs now and then a little uneaſineſs, and fulneſs in the parts.

Yet, the exiſtence of an aneuriſm being diſcovered, it appears adequate to the production of all the phænomena. Thus in the Medical Communications, we find " a pain " of the ſpaſmodic kind, at firſt confined to " the back, but afterwards ſpreading to the " left ſide," mentioned among the ſymptoms which attended a caſe of aneuriſm. In the Marquis Palucci's caſe, related by Morgagni, the diſeaſe, in the beginning, " lay under the deceitful maſk of periodical " pains,

" pains, that wandered through the left " ſhoulder, and the adjacent parts." It was attended with ſuffocating paroxyſms. Both theſe, and the wandering pains, were alleviated by bathing the hands and arms in warm water; for the extraordinary efficacy of which practice in appeaſing certain ſpaſmodic paroxyſms, ſee Mr. Whytt's Treatiſe on Nervous Diſeaſes.

In *Ferrarini*'s caſe we find " a ſenſe," as he called it, " of a kind of air, aſcending " from the hypochondria to the fauces; " which circumſtance, together with the " ſudden invaſion and departure of the fit, " and the relief that he frequently found " from the eruption of flatus, and his me- " lancholic temperament, induced not only " the ſick phyſician himſelf, but moſt others, " to think the paroxyſms were to be ac- " counted for almoſt, as in hyſterical wo- " men, only from irritated and convulſed " nerves."

More inſtances would be ſuperfluous of aneuriſm occaſioning ſymptoms that reſembled nervous, or ſpaſmodic affection. In the caſe of our patient, I conceive, that a painful ſenſation was produced in the coats of the

the artery by the preternatural diſtention they underwent; and that this painful ſenſation was, by ſympathy, communicated to the continuous ſurface of the pleura, ſo as to be ſometimes referred to one part, and ſometimes to another, of that ſurface.

III. The latent cauſe thus diſcloſed, evinced, to my infinite regret, that the plan which was purſued was in ſeveral reſpects improper. A much ſtricter regulation of diet, perhaps even the greateſt ſeverity of abſtinence, ought to have been enjoined. The bare conſideration of the morbid cauſe naturally leads to this practice; which was accordingly enjoined by the father of phyſic: and we have, in the work of the illuſtrious author whom I have ſo often had occaſion to quote, two inſtances of cures accompliſhed by it. In one of theſe the regimen was carried to ſuch a degree of ſeverity, that the patient could, by reaſon of weakneſs, ſcarcely raiſe his hand from the bed. A patient muſt be fully impreſſed with a conviction of his danger before he will conſent to ſuch treatment: but the advantage of it was fully demonſtrated by the event; for the pulſation, and other ſigns of incipient aneuriſm, went off under this

courſe;

courſe; after which, the phyſician, Valſalva, increaſed the quantity of aliment by degrees, every day, till the ſtrength was reſtored.

With reſpect to *exerciſe*, the rule proper to be obſerved, ſeems to me leſs obvious. When abſtinence is carried ſo far as above deſcribed, this is evidently out of the queſtion. But, if ſuch ſeverity is judged unneceſſary, or the patient cannot be brought to ſubmit to it, it may be deſerving of conſideration, that although when violent, exerciſe would increaſe the diſtention, by augmenting the impetus of circulation; yet, if moderate enough to avoid this effect, it would diminiſh the fulneſs of the veſſels, and thus aſſiſt the cure. On this principle, when the diſeaſe is in the incipient ſtate, I ſhould be inclined to recommend ſome kind of geſtation, carefully avoiding all ſudden exertions.

The effect of *tonics* ſeems alſo very doubtful. They muſt increaſe the rigidity of the arterial coats; and as their operation will probably be greater on the ſound, than the diſeaſed parts, it is reaſonable to ſuppoſe, that they will increaſe the inequality between the ſtrength of theſe parts, and conſequently the diſeaſe. Thoſe which have a tendency to quicken

quicken the circulation, as ſteel are undoubtedly improper. But the cold bath, which tends to diminiſh the impetus of the blood, and the fulneſs of the veſſels, ſeems to admit of a queſtion. It ought, unqueſtionably, to be uſed in ſuch a manner as to avoid a ſudden ſhock.

Yet the treatment which was followed, repeatedly removed the troubleſome ſymptoms, and to all appearance accompliſhed a cure. How is this to be accounted for? The practices employed had all a tendency to increaſe the tone of the ſyſtem; conſequently, to diminiſh irritability. Hence, I ſuppoſe, that the ſuſceptibility of a painful impreſſion in the affected parts was leſſened, and thus the pain removed, though the exciting cauſe might remain, or even receive an augmentation from ſome parts of the practice. On the other hand, when the irritability, which was here the prediſpoſing cauſe, was increaſed by too much fatigue, by anxiety of mind, or a moiſt and relaxing ſtate of the atmoſphere; the pain returned, and its ſeat was, no doubt, determined by ſome minute circumſtances in the ſtate of different parts of the pleura.

So much for the general plan of cure. Of the remedies applicable to the obviating of urgent ſymptoms, *veneſection* is undoubtedly that to which a knowledge of the real morbid cauſe would moſt directly lead the practitioner. It was uſed in the beginning with good effect; but afterwards laid aſide on conſideration of the circumſtances, which indicated a nervous diſeaſe. Nor would a knowledge of the true cauſe have juſtified its frequent repetition; as that has a tendency to induce the very plethoric ſtate, to which it affords occaſional relief. But I have little doubt, that if it had been employed when the aggravation of ſymptoms took place, on the day preceding the patient's death, it might have prolonged his exiſtence.

IV. The importance of being able to diſtinguiſh an internal aneuriſm from thoſe nervous affections which it often ſo nearly reſembles, having been clearly evinced by the preceding narrative, it would have given me much ſatisfaction to point out, in the foregoing caſe, ſufficient grounds for a juſt diagnoſis. But, after attentively conſidering, with this view, all the ſymptoms, I muſt confeſs my inability to diſcover any marks unequivocal

vocal enough for this purpoſe. Theſe, I apprehend, muſt be derived from a compariſon of numerous caſes, and I can only offer this as a ſmall contribution towards the hiſtory of the diſeaſe; leading in a caſe where ſimilar ſymptoms may occur, to a ſuſpicion of the ſame cauſe, though not affording any ſufficient means of aſcertaining its exiſtence.

W. HUNTER.

ARTICLE XXXVII.

Pathological Remarks upon various Kinds of Alienation of Mind.

By JAMES SIMS, M.D. Pres. M. S. L. F. A. S. and R. I. Ac. Hon. F. N. Y. and Mass. Med. Soc. V. P. Philanth. Soc. &c.

Read January 28, 1799.

Having lately ſeen an account of a trial for a capital offence, in which the judge, I am convinced, ſolely from ignorance of the ſubject, gave a moſt erroneous opinion affecting the life of the ſuppoſed culprit, I thought it not improper to lay before you a few thoughts on the ſubject. In the account I have mentioned it is ſtated to have been ſaid, that no homicide could be deemed inſane who knew that it was a man, and not a dog or a cat, that he killed. Now, on the contrary, I believe, I may aſſert, that no madman ever miſtook the appearance of a dog or a cat for that of a man. Such things, it is true, occur in plays and works of fancy, but, I am convinced, never in real life. To guard againſt ſuch miſtakes for the future, as far at leaſt as in my power, I ſhall endeavour not only to define

define the principal ſpecies of inſanity, but alſo to give ſuch a deſcription of them as ſhall make them underſtood, even although the definition ſhould not be ſufficiently correct or intelligible; an accurate deſcription of a diſorder, like a good picture, making ſuch an impreſſion on the mind, as to leave no doubt of the reſemblance whenſoever we meet with the original.

I have a farther reaſon for writing on this ſubject, which is, that I think there is a ſpecies of diſeaſe frequently to be ſeen in this country, which, both on account of its important conſequences, and its being perhaps ſometimes miſtaken, ſeems to merit a more particular attention than what has been yet paid to it. This may be called delirium, either ſucceeding or followed by fever. This ſufficiently diſtinguiſhes it from delirium in the advanced ſtages of fever, of whatſoever kind, and alſo from madneſs; a diſtinction of more importance, as there is reaſon to believe that they have been frequently confounded.

To give general definitions, which ſhall comprehend a variety of matters, is more difficult than is commonly conceived, and in no inſtance, perhaps, more ſo than in the preſent caſe. Every one thinks that he can

 diſtinguiſh

diſtinguiſh inſanity ; but has it yet been properly defined ? A definition to be good ſhould be clear, and eaſily comprehended by all who are qualified to judge of the ſubject ; and it may be aſſerted, that nine in ten caſes of inſanity are manifeſt to, and therefore underſtood by, moſt men. To bring in, then, metaphyſical terms and niceties in defining it, is only to puzzle what muſt have been before tolerably perſpicuous. Were I to hazard a definition, I ſhould call it, the thinking, and therefore ſpeaking and acting differently from the bulk of mankind, where that difference does not ariſe from ſuperior knowledge, ignorance, or prejudice.

By ſolely attending to the former part of this definition, many of the wiſeſt men have been accounted mad, which however ſhews that to be the baſis of the definition in the general opinion.

I have laid the ſtreſs upon thinking differently from mankind, becauſe ſimply acting differently does not conſtitute inſanity. The highwayman is not inſane becauſe he is not convinced that he acts right, whereas inſane perſons ever act from a thorough conviction of rectitude.

There are three principal kinds of inſanity, totally

totally diſtinct and different from each other. Theſe are fatuity, madneſs, and delirium. Each of theſe may be again divided into two ſpecies: fatuity into folly and idiocy; madneſs into melancholy and mania; delirium into deſipience and raving. This diviſion ſeems as natural and important in the firſt and laſt kinds of inſanity, although it has ſcarcely been pointed out, as the middle one, where it has been univerſally recogniſed; the difference between the two ſpecies in each depending in a great meaſure upon the energy or activity with which it is accompanied. Thus there are quiet and innocent fools, as well as miſchievous and highly noxious ones; and the deſipience which accompanies the gaol or hoſpital fever, appears very different from the violent furious raving in phrenitis.

In fatuity the perception of external objects is perfectly right, though perhaps dull; the recollection of them, or the memory, is alſo right, though apparently very feeble and indiſtinct; but the faculty of comparing, aſſociating, or combining theſe, or, in other words, the power of reaſoning, is almoſt entirely wanting.

In madneſs the external ſenſes are right, and it is only the memory or recollection of

 former

former objects that ſeems depraved. By this is not meant a loſs or deficiency of memory, as mad perſons recollect with great acuteneſs moſt of thoſe things which have happened to them; but with theſe they mix a falſe imagination of things that have been ſaid or done by or to them, which in reality never happened; and this falſe memory of things that never had an exiſtence, is at leaſt as ſtrong, and ſeemingly as preciſe, as their recollection of ſuch as really happened. It is upon this falſe remembrance that they act and ſay all thoſe things that conſtitute the diſorder. The faculty of reaſoning is unimpaired; nay, if allowance be made for the falſe data preſented by their memory, the patients often reaſon with an acuteneſs, and reply with a wit and brilliancy unknown to them formerly in their beſt ſtate of health. The ſufferers alſo have a clear determined purpoſe, which they make uſe of proper, often the moſt proper, means to attain, Thus madmen make uſe of a knife or ſword, not a ſtraw or lath, to injure or kill the perſon who in their opinion have offended them. In ſhort, maniacs often exhibit great energy both of mind and body; and melancholics, though they do not ſhew ſuch extreme momentary ſtrength of either,

yet

yet they moſtly make up by ſingular perſeverance for what they want in ſudden exertion.

Very different from madneſs is the alienation of mind uſually called delirium. This I would divide alſo into two kinds, deſipientia and raving: the former bears a ſlight reſemblance to melancholia, whilſt the latter, having ſome of the features of mania, is by incautious perſons ſometimes confounded with it, to the no ſmall detriment of the ſufferer. In delirium the external ſenſes, eſpecially thoſe of ſight and hearing, are depraved. Thus during delirium perſons are ſuppoſed to be ſeen who are not preſent, beings that have no exiſtence. Sounds, words, and ſentences, are likewiſe ſuppoſed to be heard which have no reality, and converſations are almoſt conſtantly ſupported, either in a muttering or furious way, with theſe beings fancied preſent. The memory of perſons in delirium is rather blunted than depraved. It is therefore vague and indiſtinct, ſeldom, if ever, preſenting ſtrongly any thing which either had or had not an exiſtence. The mind alſo has no perſeverance, no energy, no clear, determined purpoſe, and when they appear to have ſome purpoſe in view, they as often make uſe of means to obtain it, totally

tally inadequate, or even ridiculous. Their reaſon is totally deficient, and they are much more nearly in a ſtate of fatuity than in that of madneſs.

To ſum up all theſe diſtinctions in a few words, the deviation from the mens ſana, is, in fatuity, a want of the power of reaſoning; in madneſs a vitiated ſtate of the memory; and in delirium an error in both, together with a depravation of the external ſenſes.

I ſhall now proceed to ſuch a deſcription of each ſpecies as will, I hope, impreſs their difference more fully on the mind than any diſcrimination drawn from a few leading ſymptoms only can poſſibly do.

Fools or idiots are known by a total diſregard of decency, a vacant ſilly countenance, or, if rouſed to attention, by a ſtupid ſtare, a diſtorted laugh without cauſe or meaning, a lolling tongue, an inability to ſpeak, or at leaſt to utter words diſtinctly and articulately, and an incapacity to learn any thing uſeful, much leſs ſcientific. But I need not dwell longer upon this deplorable diſeaſe, which, when idiopathic, never admits of cure, or even mitigation.

In the firſt approaches of melancholy the perſons become ſilent and abſorbed in thought,

diſlike

diſlike being ſpoken to or rouſed, and ſeem always occupied in ſome grave contemplation. Jeſts, laughter, and every ſpecies of hilarity, ſeem irkſome to them, as do all kinds of buſineſs. If queſtioned concerning being unwell, they deny it. Their nights are reſtleſs, or when they ſleep, it is anxious and diſturbed, and they wake from it in a fright, and without being refreſhed. Their countenance is pale or ſallow, and dejected. They avoid ſociety, flying to ſolitude, where they ſit or lie for days, in ſilent contemplation.—Thus far they are unnoticed, their friends ſeeing little of them, and their menial attendants not perceiving much amiſs.—Their complexion now becomes duſky, almoſt livid, or covered with dark ſpots; the look timid and ſorrowful; the eye downcaſt and ſteady, with the pupil ſomewhat dilated, or caſt ſideways upon objects; pulſe ſlow; heat little; when obliged to move, their motion is ſlow, meaſured, ſolemn, or torpid, with folded arms.—Their ſpeech is ſlow, ſedate, ſolemn, meaſured, and argumentative; and they are moſtly buried in ſorrow. A good dinner, with a moderate quantity of wine, ſeems at firſt to bring a little cheerfulneſs

fulneſs with it; but in a ſhort time this gives place to increaſed dejection of ſpirits, attended with ſlow but conſtant paſſions, difficult to be excited, but when raiſed as hard to be allayed. Their muſcles appear totally relaxed, attended with great laſſitude. They have now a laborious, profound reſpiration, with reiterated ſighs, and they frequently ſhed tears.

The diſorder of the mind now begins to manifeſt itſelf more. Their ſilence gives way, in ſome degree, and they complain of ſome action that they have done againſt ſome friend or relative, or ſome crime that they have committed, which can never be forgiven by God or man. This action is often totally imaginary, or where it has a ſlight foundation, they exaggerate it into a matter of the moſt unbounded magnitude. In ſhort, their memory, which is the moſt diſeaſed part, conſtantly makes them worſe than what they are, and ſometimes ſuggeſts to them their having undergone the moſt whimſical, ridiculous, or degrading bodily changes.

As the diſeaſe proceeds they become ſuſpicious of all around them, and imagine they ſee conſpiracies againſt them in the moſt

trifling

trifling occurrences. They think all their friends are become enemies, which induces a tædium vitæ, ending often in ſuicide. Their thoughts are conſtantly bent towards one object. They enjoy but little ſleep, and that anxious, waking often in a fright. They become extremely ſilent, but have great anxiety painted on their countenance, which at the laſt becomes auſtere and moroſe, with eyes betokening treachery and deſpair.

During the progreſs of the diſorder there are often but few bodily complaints. There is but little perſpiration, and all the other evacuations are torpid and diminiſhed. They become emaciated, although their appetite may be far from bad. At other times they refuſe nouriſhment, faſting for days, nay, often weeks. The viciſſitudes of the weather ſeem to make little impreſſion upon ſome, others ſit cloſe to the fire in ſummer or baſk in the ſun, whilſt in winter they appear inſenſible of cold, and avoid heat ſtudiouſly. They loſe all regard to the common civilities, or even decencies, of life.

It has been ſaid that perſons liable to melancholy uſually poſſeſs ſingular genius; and a line of Pope will be recollected wherein he aſſerts,

asserts, that great wit is nearly allied to madness; from whence some have gone so far as to suppose that persons of a weak understanding never become mad. In my opinion the supposition is not founded in fact, and arises partly, from a few persons of genius having become insane, who therefore are more spoken of than the infinitely greater proportion of weak persons who are so, and partly from confounding hypochondriacism with melancholy; the former being almost exclusively the disorder of ingenious studious literary persons, and which sometimes degenerating into the latter, has made the utmost confusion in the description of both, by authors not distinguishing accurately where the one ends and the other begins, but giving the same symptoms indiscriminately to both.

In idiopathic mania the first symptoms that usually occur are, a great degree of restlessness or wish to change place. If the persons be in a room they cannot sit still, but are continually rising and walking about; even when sitting they cannot keep their arms, legs, or almost any part of their body, quiet for a minute; the postures in which they place themselves are also apparently

forced, and unnatural, and what would make any perſon in health uneaſy. All their motions are quicker than ordinary; they walk quick, ſtop ſuddenly, and talk hurried. If walking alone they are conſtantly talking to themſelves; this, however, is not ſo remarkable a ſymptom in London as in the country, ſo many perſons who are perfectly ſane doing it in the ſtreets: which, I believe, is owing to the conſtant noiſe drowning the ſound of their voice, which, in rural ſolitude, would ſtrike their own ears, and ſo prevent its repetition; add to this, that here almoſt every man ſhews a viſible eagerneſs and buſied countenance unknown in the country. In walking their arms are almoſt continually in motion, their head alſo partakes of the general reſtleſſneſs. Their eye is conſtantly roving about, and ſcarcely attending to the ſurrounding objects. They talk in a deſultory way, flying from one object to another, in the ſuddenneſt manner, and engroſſing moſt of the converſation to themſelves, in which they uſually mix much unneceſſary laughter. In going through the ſtreets they often ſtop perſons with whom

they

they have but a ſlight acquaintance, aſking them a few rapid queſtions, or talking of trivial matters for a moment, then run on, ſcarcely waiting to hear what they have to ſay; yet when they meet an intimate friend, they ſcarcely notice him, or, if obliged to do ſo, hurry away from him as quickly as poſſible. They become loquacious and argumentative, but highly impatient of contradiction. When they talk of trifles they ſpeak with great violence, and often noiſe, paying little reſpect to the rank of the perſon with whom they converſe, deſpiſing every thing ſaid or done by others, and expecting the utmoſt deference to be paid to themſelves. They are fond of quick motions on horſeback, or in a carriage, often taking jaunts on purpoſe to be driven as quickly as the horſes can go. In this way they alſo indulge their propenſity to change of place, of ſcene, or of company. They have a ſtrong inclination to drink too much wine or ſpirituous liquors, and are likewiſe fond of merriment, jeſts, laughter, ſinging, and muſic. During the time that the diſorder keeps in this ſtate little ſuſpicion is entertained of the patients' real

real ſituation, the perſons moſt about them aſcribing the oddities which they obſerve to, a too frequent indulgence in wine, keeping their mind, as well as body, heated and irritable; and thoſe who are not intimate with them being incapable of knowing that their preſent differs at all from their former ſtate of mind. It is not to be imagined that all the ſymptoms which I have mentioned occur in the very beginning, at leaſt not in ſo ſtriking a manner. Theſe ſymptoms alſo only recur at intervals, as they are produced by ſome exciting cauſe, as anger, wine, or exerciſe, whilſt at other times the patients are as cool and collected as uſual. Theſe intervals likewiſe tend to hide from their friends the real diſordered ſtate of their mind.

After this ſtate has laſted perhaps for ſome weeks, the intervals becoming ſhorter, and the paroxyſms ſtronger, the patients ſhew ſome unequivocal ſign of derangement. This often happens in money matters. During the former ſtage they were more generous than uſual, even ſo as to appear profuſe; but they now become totally careleſs of their property, ſquandering it away moſt unneceſſarily and abſurdly to ſupport a fancied conſe-

quence and dignity which they aſſume. Indeed it rarely happens that maniacs do not fancy themſelves to have become kings, princes, or nobles, beſtowing titles, honours, and wealth, at their diſcretion ; or at other times prophets, apoſtles, or even greater, diſpoſing of every thing in this world and the next at their ſovereign pleaſure. They now think themſelves above controul, commanding all around them, and ſtriving to awe every one by the fierceneſs of their eye and ſtedfaſtneſs of their look, yet when overcome by the ſuperior ſternneſs and conſtancy of another perſon's look, they ſubmit eaſily to that perſon ever after, thinking themſelves completely conquered. Ever after being ſo conquered, and eſpecially if they have ſuffered any coercion, they become ſuſpicious, inſidious, and cowardly ; often ſtriving to injure thoſe about them in an underhand, crafty way. I know not how it happens that moſt writers have deſcribed maniacs as courageous, which I am convinced is not the fact. It is true their cowardice is very different from the timidity attendant upon melancholy perſons, which laſt rarely, if ever, prompts them to injure others. They moſtly conceive themſelves

injured by thoſe who have been moſt friendly to them, thinking that they recollect a number of their actions to them, that in reality never had an exiſtence, and grounding their violent reſentments upon ideal faults. Their mind, as the diſeaſe increaſes, becomes the reverſe of what it was formerly. Thus, if moral and pious, they become profligate and obſcene; if modeſt, they appear diveſted of ſhame, not covering their nakedneſs nor ſeeking to ſcreen their evacuations, but ſpitting at their attendants, and wallowing in dirt and mire. Their eyes are bloodſhot, eye-brows ſcowling and malicious; at times they appear neither to hear nor ſee. They are ſtrong, ſalacious, and have often a priapiſm. They have no care nor thought of futurity. They delight in noiſe, railing, ſcolding, bawling. Their ſkin is dry, often ſcaly, and I have always remarked a peculiar ſmell or fœtor about madmen, by which I think I can diſtinguiſh the complaint on firſt approaching them.

Moſt writers have ſaid that melancholy was partial, and mania univerſal inſanity. I believe there is no univerſal inſanity except in ſome caſes of idiocy and delirium. I never

ſaw the maniac who did not underſtand, nay, reaſon tolerably well upon ſome points; that is, when he will deign to take notice of or converſe with any one. Fever has been ſaid by many to be an attendant upon mania, but I believe, likewiſe, improperly. The truth is, maniacal perſons may become feveriſh, nay delirious; and, indeed, the rage and violent action that they often throw themſelves into, muſt tend to produce fever. Delirium in fever we alſo know degenerates ſometimes into mania. Theſe diſorders are therefore, in ſome meaſure, convertible into each other. The laſt remark may be extended to mania and melancholy, each ſometimes being changed into the other in the ſame perſon. Both ſpecies are chronic diſeaſes.

I have already ſaid there are two ſpecies of delirium. In the firſt, or low ſpecies, the patients lie moſtly on their back, with a vacant relaxed countenance: their eyes ſhut, or, if open, fixed upon vacancy, the pupils not being contracted to the degree proper for ſeeing the object towards which they are turned: they are continually muttering in an incoherent, irrational manner: they attend to nothing around them, and when rouſed by

by the by-ſtanders to pay ſome little attention, after giving, perhaps, one tolerably rational anſwer, they immediately relapſe into their former nearly inſenſible ſtate: they are continually picking at the bed-clothes, or if dozing, their fingers are in conſtant trifling motion: their pulſe is quick, but ſmall and unequal, ſo as to be difficultly counted, and when numbered to give the utmoſt variety: their tongue often appears nearly as in health, but when put out has a tremulous motion, as have their extremities: their ſkin is ſoft and relaxed, ſeldom betraying much heat: they are inſenſible of their evacuations: inclinations or appetites they ſeem almoſt deſtitute of, even for drink: they are ſometimes fretful with their attendants, but that quickly ſubſides.

The raving delirium is, in ſome reſpects, very oppoſite to this, though in others it coincides with it. In this the patients ſcarcely ever cloſe their eyes, remaining a week or more, if they live ſo long, without any ſleep: their eyes are dry and moſtly bloodſhot; they fix them with great intenſeneſs upon vacancy, where they obviouſly think they perceive perſons or things ſeen by nobody

 elſe,

elſe, with which they hold converſations apparently very intereſting to themſelves: they are always earneſtly intent, in appearance, upon ſomething, which, however, can rarely be comprehended by the attendants: they have an eager, often a fierce look: they throw about their arms much, and are perpetually attempting to riſe from bed, and to go ſomewhere, yet, if permitted, they know not what they would be at: they are exceedingly quarrelſome with their attendants: they attend not to their evacuations: they know not where they are, though, perhaps, in their own bed-chamber, and they as little know thoſe about them, yet if forced to attend, they take it very ill to have their knowledge queſtioned, being very iraſcible: their ſkin is hot, often dry, or if ſweating, only partially ſo about the upper parts of the body: their pulſe is quick, but full and ſharpiſh in the ſtroke, and tolerably uniform: their tongue is dry, lips and teeth covered with a black fur: they are moſtly thirſty, prefering cold water to every other beverage. This complaint is much more rapid in its progreſs and termination than the former ſpecies.

I have

I have thus attempted a deſcription of delirium, with ſome of its concomitant ſymptoms: but to give them all would require a detailed account of every ſpecies of fever; I have therefore mentioned ſuch as ſeemed moſt connected with it; and ſhall only farther mention a few remarks concerning it.

Delirium is moſt frequently attendant upon the acme of fevers, but it likewiſe is ſometimes almoſt the very firſt ſymptom of them, in which ſuicide, or an attempt at it, is often the conſequence. I have known ſeveral of theſe attempts which have not ſucceeded, and have almoſt ever found them owing to fever preceded by delirium. This fact I wiſh to be more known, and farther deſcanted upon, than my preſent limits will permit.

Delirium likewiſe often laſts for a time after fever ſubſides. Of this kind is that ſpecies which follows the fevers of lying-in women, which has been often miſtaken for madneſs, but which is very curable, and without return.

Having ſaid thus much to diſtinguiſh the various kinds of inſanity, not only from health, but likewiſe from each other, it ſeems requiſite to add what may diſcriminate

them from ſome other diſorders with which they may be confounded. Of theſe the principal are the hypochondriac and hyſteric diſeaſes.

The hypochondriac diſeaſe may affect either ſex, and approaches the melancholic in ſome things ſo nearly, as to have puzzled many noſologiſts to diſtinguiſh them. This ambiguity ariſes from the one diſorder ſometimes degenerating into the other, in a ſimilar manner as raging delirium degenerates into mania; and authors not having laid down any fixed diſtinction between the two, have deſcribed them nearly in common. The hypochondriac diſeaſe agrees with the melancholic in extreme dejection of ſpirits, and anxiety, but for different objects; the ſufferers under the former having their mind almoſt entirely taken up with the ſtate of their health, which they imagine to be infinitely worſe than it is, conſtantly auguring death, or the moſt dreadful conſequences from even the moſt trifling ailments; whilſt the thoughts of the latter claſs are employed upon their own ſuppoſed former mental depravity, by which they have forfeited, in their imagination, the friendſhip of thoſe they love, and the favour of the

Supreme.

Supreme. In the former there are indeed much more marks of the body, particularly the primæ viæ, being diseased. From this latter circumstance the late celebrated Dr. Cullen has taken his distinction, yet plainly without any confidence in his own opinion, as may be seen by his note on melancholia, in which he says, that "if these two diseases can at any time be distinguished, it is by no other sign than the indigestion being present at all times in the hypochondriac disease, whereas in the melancholic it is often wanting." To this might be added, that in the former the indigestion precedes the sorrowful state of the mind, whereas in the latter, when idiopathic, the state of the mind precedes, and is unconnected with, and often unaccompanied by, the indigestion. Let us try, however, whether a more accurate distinction cannot be found out.

Hypochondriac persons always have a number of bodily complaints which are real and serious, although the dejected state of their spirits makes them exaggerate them very much, especially in the beginning, for toward the end of the disease they scarcely admit of exaggeration. On the contrary, melancholic

lancholic perſons moſtly deny their having any bodily complaint, or, at leaſt, any which they can find words to deſcribe. But a much ſtronger diſtinctive mark may be taken from the ſtate of the memory in each. In the hypochondriac diſeaſe the recollection of paſt events is ſufficiently perfect, and it is only the internal feeling ariſing from thence which is too acute, and the imagination too much alive to ſorrowful or painful impreſſions, magnifying all things which can feed their ſorrows, into matters of the higheſt conſequence, though in themſelves of little importance. On the contrary, the memory of melancholic perſons is totally vitiated, preſenting to them numberleſs things which never happened, and of which they are ſo well convinced, that no reaſoning of their friends, nor their ſtrongeſt aſſertions, nor aſſeverations, can in the ſmalleſt degree leſſen their belief. Whenſoever hypochondriac perſons have their memory thus changed, they become melancholic or maniac, in which caſe I moſtly find their bodily complaints greatly diminiſh.

I have already ſaid that I look upon the hypochondriac and hyſteric diſorders to be different

different from each other; by which I do not mean that there is not a diſeaſe among women ſo exactly reſembling the former, that I conſider it to be the ſame, and to merit the ſame name. But there is alſo a diſeaſe almoſt confined to the female ſex, which is ſo entirely different from this, that I think the term hyſteric ſhould be ſolely appropriated to it, as we would thereby avoid the confuſion ariſing from the ſuppoſition of both diſorders being the ſame. A very evident diſtinction appears between the two diſeaſes in the ſtate of the temper or ſpirits, which in the hypochondriac diſeaſe are always in ſome degree low, inſpiring them with a greater or leſs unneceſſary dread with reſpect to the ſtate of their bodily health. Whilſt, on the contrary, no perſons have a greater flow of ſpirits than hyſterical patients often have, and whereſoever I find this amazing inequality of ſpirits, I pronounce the diſeaſe to be hyſterical, even in men; whereas whenever the ſpirits are always depreſſed, though at different times in very different degrees, I denominate it hypochondriacal, even in the female ſex. But many other differences will appear in the deſcription of each.

Another

Another moſt remarkable trait of hyſterics is the ſuddenneſs with which, without any evident cauſe, or on the ſlighteſt one, the ſymptoms come on or change from one claſs to a very different one, or even to the higheſt degree of health and ſpirits.

The firſt, and indeed the moſt permanent ſymptoms of hypochondriaciſm, are thoſe of indigeſtion. The patients complain of a heat and pain along the courſe of the œſophagus, and about the pit of the ſtomach, uſually called heartburn. They are troubled with a fulneſs of the ſtomach apparently from wind, which they bring up at times by belching, accompanied with a ſour unſavoury taſte. Some alſo bring up, without vomiting, cleai cold water; others have uncertain vomitings, eſpecially after a full meal. The wind which at firſt only affected the ſtomach, afterwards deſcends into the bowels, producing croaking, rumbling, and noiſes called borborigmi, together with ſnatchings and pricking pains there, ſometimes ſo great as to be denominated colicky or nephritic. The appetite is ſometimes keen, but in general very various, as are the alvine diſcharges at firſt; but in the increaſe of the diſorder, the patients often become very coſtive, diſcharging black hard-

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ened excrements, with much pain and ſtraining. At this time their bowels are very difficultly ſoluble, requiring ſtrong cathartics to produce any effect. They often are troubled with piles, eſpecially internal ones, attended with great pain, and frequently blood.

Whilſt theſe ſymptoms of indigeſtion are going on, others, moſt probably the conſequence of them, are very troubleſome. There is often a weight, oppreſſion, or tightneſs, felt about the præcordia, with palpitations of the heart. There are frequent fluſhings and flying heats of the face, and even over the whole body, at other times the face is pale; headachs are frequent, followed by great giddineſs. Their eyes are dim at times, and they complain of a ſounding in their ears. In ſhort there is no part of their frame that does not ſeem indiſpoſed. The urine is exceedingly various, at times ſmall in quantity, and muddy or like whey; at other times, eſpecially if any cauſe of flurry have intervened, it is made frequently, and in vaſt quantities, as clear as ſpring water. They become exceedingly watchful, their ſleeps being ſhort, anxious, and diſturbed often with dreadful dreams, from which they waken in a fright, covered,

covered, perhaps, with a cold ſweat: neither do they perceive refreſhment from ſleep, but are languid and weary after it. They are greatly affected by the weather, and are often able to foretel a change in it by the previous alteration they feel in themſelves.

After the bodily complaint has made ſome progreſs, the mind becomes alſo affected. At firſt this affection is confined to an incapacity to pay long or cloſe attention to buſineſs. They become extremely low-ſpirited, and ſorrowful, ſighing frequently. They are likewiſe fretful, eaſily offended, and put into a paſſion by the mereſt trifles. They are ſupine and irreſolute, doubting every thing, timid and ſuſpicious. There is one thing in the mental part of this complaint, which is more conſpicuous than all the reſt, this is their ſuppoſing themſelves afflicted with almoſt every diſorder they have ever ſeen, read, or even heard of. Although in their better moments they are fully ſenſible of theſe whimſies, and angry at themſelves for indulging in them, yet ſo overbearing is the diſeaſe as to get the better of all that they or others can ſay to them againſt it. They are even diſobliged at any perſon who tells them

them that they look well. They are minute obſervers, and tireſome deſcribers of their complaints, exceedingly querulous, and fond of complaining, thinking every thing of conſequence, and even ſometimes prognoſticating a fatal event, becauſe they have not ſome particular bad ſymptom, which a perſon who died of any other complaint was free from.

The hyſteria is ſaid by ſome to put on the appearance of almoſt all diſorders, by which is it not plain that they confound moſt diſeaſes with it? It is true that the hiſteria is accompanied with a great variety of ſeemingly different ſymptoms, yet all theſe may, I think, be deduced from a convulſion or contraction called ſpaſm of the parts affected, owing to a ſuperior degree of nervous irritability. In this its firſt and ſlighteſt ſymptoms may be diſtinguiſhed, and in the ſame all its moſt violent, as well as moſt anomalous ones, are founded.

The firſt appearances are tremors and flurry upon the ſlighteſt cauſes. The patient's whole frame is ſuſceptible of impreſſions to an amazing degree. Thus the leaſt noiſe or ſurpriſe affects them greatly; as does any mental affection, as anger, vexation, diſap-

pointment,

pointment, and even merriment or pleaſure. At theſe times they feel an internal beating, throbbing, trembling, and even a palpitation of the heart. As theſe become more irkſome they acquire a certain dread of them, which torments them greatly. I mean a bodily apprehenſiveneſs, before the mind can well take the alarm, therefore the ſudden opening of a door raiſes the greateſt flurry. Of this bodily apprehenſiveneſs I have an inſtance in my own frame, having when young perſevered in the uſe of electricity for a tremor in my hands, until it greatly diſagreed with me; I am convinced that I could now ſtretch out my arm to be cut off with more firmneſs and reſolution, than to take the ſlighteſt ſpark from an electric machine, although my mind is well convinced that it is not ſo painful as the prick of a pin.

The head, as being the ſource of the nerves, is likewiſe more ſtrongly and frequently affected with this complaint than any other part. A ſenſation of coldneſs is often felt there, and eſpecially towards the back part, as if cold water were pouring, or a cold wind blowing, upon it. There are frequent headachs without any manifeſt cauſe, and there

is ſometimes an intenſe pain, reſembling a nail being driven into it: this is ſo circumſcribed as to be covered with the top of a finger, and is ſometimes felt in the top of the head, often above one of the eyes. The eyes are often dim, there is frequently a ſounding in the ears, and a vertigo is at times troubleſome: theſe laſt-mentioned ſymptoms ſeem to be what are commonly called vapours. The throat is often, and variouſly afflicted. Sometimes there is great hoarſeneſs, or an entire loſs of voice, which comes on almoſt inſtantaneouſly from any affection of the mind, and ſubſides as rapidly as it came. At times a hair ſeems to be lodged about the top of the larynx: but the moſt troubleſome ſymptom is a ſenſe of conſtriction there, as if it were graſped firmly with the hand: this is often attended with the ſenſe of a ball riſing up the œſophagus, and if it be not diſpelled by belching of wind, it produces a degree of ſtrangulation, depriving the patient, for a time, both of ſenſe and motion. A copious ſpitting ſometimes ariſes evidently from the glands about the throat and fauces. A pain in the back or ſides is not uncommon.

The heart is ſometimes affected with pal-

 pitations,

pitations, but what is thought to be ſo, is often only a fluttering of the parts in its neighbourhood, as may be known by the pulſe remaining perfectly uniform during the time. This fluttering is a very frequent ſymptom. A difficulty of breathing ſometimes attends the diſorder, with tightneſs acroſs the cheſt, and a ſhort cough is not uncommon, eſpecially when any thing has occaſioned a nervous hurry; a hiccup likewiſe is an attendant on it. The ſtomach is always affected in ſome manner. In ſome there is a ſenſe of tickling in it, in others of coldneſs; but much more frequent is a fulneſs, oppreſſion, and ſwelling there, relieved by expelling of wind. There is often a ſenſation of a want, or vacancy there, attended with lowneſs and faintneſs, relieved by taking ſtimulating food. The appetite is very various, but ſeems, upon the whole, quite ſufficient to the ſupport of the body. Cardialgia and pyroſis are not unfrequent. There is often, eſpecially after windy food, a very troubleſome rumbling or croaking heard in the bowels; a large ball likewiſe appears to roll about in the belly. The urine is very various, at times high-coloured, muddy, and in ſmall quantity, but often perfectly limpid,

in large quantity and frequent: this uſually happens after any nervous affection, and is attended with relief. A degree of ſtrangury ſometimes attends. There is a very troubleſome complaint often attending the extremities, particularly the lower ones, and at night in bed; this is a conſtant reſtleſſneſs, and inability to keep them ſo long quiet as to take needful ſleep. Cramps of various parts are very frequent. There is another ſymptom exceedingly common, about the cauſe of which I never could ſatisfy myſelf; this is a puffy ſwelling, which is commonly ſuppoſed to be windy. This ſometimes occupies a great ſurface of the body, at other times is confined to a particular limb, or ſmall part of one. It riſes very ſuddenly, and after laſting ſome hours, diſappears as quickly. Its ſeat appears to be the cellular membrane, but how air ſhould get there, or a watery fluid be ſo circumſcribed, I leave to others to determine.

Fits of two different kinds are very frequent in this diſorder. The firſt are incident to very young, ſallow, or chlorotic patients. In theſe they become quite pale or livid, the body becomes cold, the eyes ſhut, the pulſe and breath ſtop, and they appear lifeleſs. At laſt they begin to ſigh, yawning and ſtretch-

ing themſelves, and, by degrees, recover their natural warmth, the pulſe, and all the faculties, returning as before. The other ſpecies of fits attack women of a more robuſt make and ſanguineous temperament. Theſe are attended with heat, ſweating, foaming at the mouth, ſtruggling, ſtrong convulſions, ſhrieking, or muttering, raving and making ſtrange noiſes; during this time their colour is freſh, nay, roſy; their pulſe and reſpiration are, however, very various, ſometimes ſtopping at once, then again returning with violence. After the fit they are ſometimes ſick, and vomit green highly acid bile. They likewiſe remain languid, weary, ſore, and bruiſed, and ſometimes hot and thirſty for ſome time.

I ſhould have remarked, that crying is a very frequent ſymptom with moſt hyſteric patients, and often without a cauſe. This moſtly gives relief, and is therefore not to be too much repreſſed. But there is another ſymptom which ſometimes happens of a much more diſtreſſing kind; this is hyſteric laughing. The fits of this will laſt, at times, for many minutes, nay, for near an hour, leaving the patient weakened and diſtreſſed beyond meaſure, and returning ſeveral times a day,

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upon the ſlighteſt emotion, as the coming of a perſon into the room, or the ſeeing of a new face. This ſymptom is a very intractable one, moſtly laſting for months, nay, ſometimes years.

I have thus endeavoured to give as full a deſcription, of the diſorders treated of, as my own practice has enabled me to obſerve, having, I believe, mentioned nothing but what I have ſeen myſelf; I muſt however remark, that all the ſymptoms that I have enumerated in each diſorder, do not occur in the ſame perſon, it being ſufficient to conſtitute the complaint, that the characteriſtic ones occur, together with ſeveral of the others; nor do they always ſucceed each other in the order here ſet down, no other diſeaſes being liable to ſuch variations; but as they are all, except delirium, of the chronic kind, there will, in their progreſs, generally little doubt remain to which claſs any particular one is to be referred.

I have been led into a much larger field in this diſquiſition than I at firſt intended, but in reality the ſubject led me, not I it. I have, however, a greater fault, perhaps, to apologize for, which is, too much egotiſm

in laying down my own opinions; for this I hope for the pardon of the ſociety, when they conſider that it is now nearly half a century ſince I began to ſtudy phyſic, during a large portion of which time I have been a phyſician in very extenſive practice; not, therefore, to give ſome degree of authority to my own obſervations, would be, perhaps, too great an affectation of modeſty. There is one remark, however, which I beg leave ſtrongly to inculcate, and to conclude with, which is, that in diſtinguiſhing diſorders which have an affinity to each other, there will, in particular caſes, be great difficulty; the ſhades of difference, as they approach, being ſo very minute, as almoſt to eſcape the moſt experienced mind. Every thing in Nature is a continued chain, without thoſe breaks and intervals which even the accurate deſcriber is obliged to make, in order to keep up due diſcrimination, and to render himſelf intelligible. In moſt of theſe caſes, however, that admit of heſitation, the beſt mode of practice is not ſo doubtful as the theory.

ARTICLE XXXVIII.

Caſe of a Gun Breech penetrating the Cranium, and remaining within it two Months, previouſly to the Death of the Patient.

BY MR. JOHN WALDON, SURGEON, OF GREAT TORRINGTON, DEVON.

Communicated by JOHN ABERNETHY, F.R.S. ASSISTANT SURGEON, AND TEACHER OF ANATOMY, AT ST. BARTHOLOMEW'S HOSPITAL.

Read SEPTEMBER 3, 1798.

IN the afternoon of November 29, 1796, I was ſummoned to attend Daniel Taunton, of the pariſh of St. Giles, a young man, aged 19, who was conſiderably injured by, what was then ſuppoſed, the burſting of a gun. On my arrival, I found my patient in his perfect ſenſes, notwithſtanding the os frontis and dura mater had been perforated a little on the right ſide, and above the frontal ſinus, a conſiderable quantity of the cerebrum was then upon his clothes, and exuding from the orifice of the wound. On further inquiry I was informed, both by the patient and his friends, of the following circumſtances: that

about five o'clock in the afternoon of the preceding day, as he was ſhooting at a wood dove, he was knocked down in conſequence of the burſting of the gun. No perſon being with him at the time, the firſt effects of the injury could not poſſibly be aſcertained; he was probably deprived of ſenſation and power by the accident, as he remained in the wood until the afternoon of the following day, compriſing a ſpace of 22 hours, during a very ſevere froſt, and was found about 60 paces from the ſpot where the accident happened. From a conſideration of the nature of the injury, and the manner in which it could have been inflicted, I heſitated not a moment in declaring, that the breech (as it is called) which ſcrews into the back part of the barrel of the gun, could only have effected the miſchief. On the gun being found, my prediction was fully verified—the barrel being perfect, and the breech gone; which carried with it the whole of the wood part of the ſtock on a plane with itſelf. Notwithſtanding he was at this time ſenſible, I ſtill doubted, from the force with which the breech was diſlodged from the barrel, and the reſiſtance of the os frontis and dura mater being overcome, whe-

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ther or not it might be left in the cavity of the cranium. I immediately, in the moſt gentle manner poſſible, introduced my finger as far as I judged it prudent, in order to detect whether any extraneous body was lodged there or not, but without effect. Having loſt a conſiderable quantity of blood, as appeared from examining the ſpot where he lay the preceding night, I judged it not expedient to open a vein, but contented myſelf, for that night, with wrapping the upper part of the face in a warm poultice, and a laxative mixture was given, in order to unload the inteſtines, together with a very ſtrict obſervance of the antiphlogiſtic regimen. The next morning, to my inexpreſſible ſurpriſe, I was informed, that he had paſſed a good night, retained his ſenſes, and was in good ſpirits. On removing the cataplaſm I found that an immenſe diſcharge of a bloody fluid had exuded from the cavity of the cranium, and which continued for ſeveral days to be thrown out to the quantity, at leaſt, of a pint every 24 hours by the pulſatory motion of the arteries. On removing, at this time, ſome part of the cataplaſm from the internal canthus of the left eye, I diſcovered by my

probe

probe the head of one of the ſcrew pins which faſtens the lock to the ſtock, almoſt buried beneath the inflamed integuments, and which had penetrated the diaphanous bone, forming the ſuperior portion of the orbit of the left eye upwards, and obliquely backwards through the cerebrum towards the right os parietale, and which I extracted with ſome difficulty. For ſome days ſubſequent to this, few or no unfavourable ſymptoms occurred but a temporary loſs of aſſociating his ideas; he did not immediately recollect himſelf when awaking from ſleep, and the diſcharge, ſpoken of above, continued profuſely. On the morning of the ſeventh day from the time of the accident, I was alarmed at an incipient drowſineſs, and the pulſe (which had hitherto been about 70, and ſoft) ſunk to 55, and his breathing alſo became ſtertorous; I now thought the tragedy was about to cloſe, and death near at hand. Under thoſe unfavourable circumſtances, I immediately ordered the fomentations to be renewed, made large evacuations, and, in ſhort, did every thing rather with a view to carry conſolation to the houſe of mourning, than from the moſt diſtant idea of giving relief.

Here let me impreſs on the minds of my brother practitioners, whoſe high and important office in ſociety renders them the guardians of what is moſt dear to their fellow-creatures, never, even in the moſt forlorn caſes, to deſiſt from every charitable attempt to adminiſter relief—for what were my feelings on the following morning on finding thoſe preludes to death had totally vaniſhed, and life, as it were, in a ſtate of renovation! From this period, Dec. 7, my patient's convaleſcence became apparent daily.—The tenſion of the integuments had ſubſided, the pain of the head, hitherto violent and almoſt inſupportable, had left him, and a diſcharge of laudable pus was evacuated through the opening of the os frontis. In this ſtate he viſited my houſe, about the diſtance of two miles, every day, or every other day, ſometimes on horſeback, oftener on foot, to have his head dreſſed, without the leaſt apparent fatigue or inconvenience. Preciſely in this ſtate he continued until the 20th of January, when a meſſenger informed me, that he had had a ſevere rigor, complained of great pain in the back part of his head and muſcles of the neck, together with a total loſs of appetite and inability to quit his bed. At this

time

time I was informed by his friends of his having committed an irregularity by going to a feaſt in the neighbourhood, where I concluded he had indulged himſelf in eating and drinking more than I had hitherto allowed him. In this place I cannot omit mentioning the pleaſure I felt during the laſt fortnight, at ſeeing the beautiful proceſs of nature in regenerating the loſt cerebrum, by throwing out from its ſubſtance granulations of an elegant faint bluſh colour. Now it was that the apprehenſions which I had from the firſt entertained reſpecting the event of the caſe were about to be verified, for the ſymptoms with which he was now afflicted, and which were obviouſly the effect of inflammation and the formation of pus within the cranium, continued to increaſe until the 28th, when he was taken ſick, and, during the act of vomiting, the attendants perceived, on a ſudden, a large projection on the right ſide of the os frontis, underneath the ſound integuments, and about two inches from the wound. On examination, I thought I perceived a large portion of the os frontis detached and in a ſtate of exfoliation, and immediately declared it as my opinion, that the only chance my patient had, was by a free diviſion of the integu-

ments,

ments, and a total removal of the ſubſtance, be it what it might. The poor fellow's ſufferings were now ſo great, that he would ſubmit to whatever I thought proper. Accordingly I called in my intelligent friend Mr. Boughton, of Hatherleigh, to be preſent at the event of this operation. As I was dividing the integuments, which, extraordinary as it may appear, were ſcarcely altered from a natural ſtate, I perceived the knife to grate on a yielding body, which appeared very unlike bone, and I had not a little difficulty in effecting the diviſion from the receding of this hard body, what we had hitherto conſidered as detached bone. When, however, the diviſion was completed, we perceived a round black body, which I immediately recogniſed as the breech of the gun. My friend Mr. Boughton then laid hold of it, firſt with a pair of forceps, and then with his fingers; and, after ſome difficulty, extracted the breech, a ſubſtance three inches or more in length, and weighing three ounces and one drachm, immediately from the ſubſtance of the brain, in which it was ſituated, in the longeſt and moſt dangerous direction; that is to ſay, with one end pointing to the

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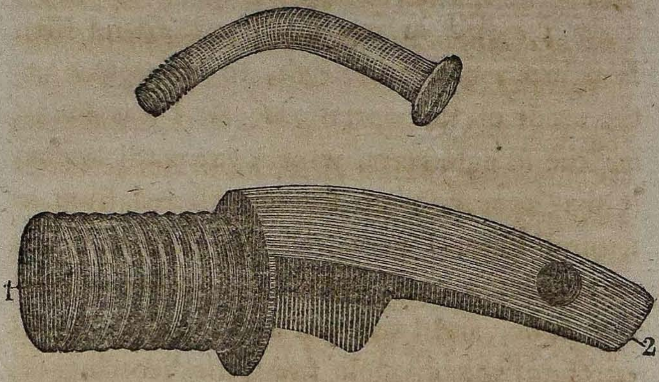
os occipitis, and the other to the os frontis; conſequently it muſt have extended nearly to the centre of the brain.



1. The round end pointing to the os frontis.
2. The part directed towards the os occipitis.

The unhappy patient immediately became paralytic, and on the third day after extracting this ſubſtance from his head, died, under a complete ſubſultus tendinum. I could not obtain leave to examine the head after death.

Thus have I recited a narrative of facts, purpoſely abſtracted from all theory, the caſe in itſelf being ſuch as I have not met in the annals of Surgery.

Great Torrington, Devon.
Aug. 17, 1798.

JOHN WALDON.

ARTICLE XXXIX.

Sketch of a Deſcription of a Species of Scarlatina Anginoſa, which occurred in the Autumn of 1798.

By JAMES SIMS, M. D. &c.

Read Dec. 24, 1798.

A SPECIES of ſcarlet fever, different from that which I deſcribed in the firſt volume of the Memoirs of the Medical Society of London, having lately appeared in various parts of this metropolis and its vicinity, and having been attended with great fatality in proportion to the number of perſons ſeized with it, I thought it would not be deemed miſpent time to give ſome account of its leading features. Although the deſcription of an epidemic, in its infancy, muſt be very incomplete, and although the change of ſeaſon has ſtifled it before it arrived at any conſiderable maturity, yet the diſquiſition will not be wholly uſeleſs, as it may, in a certain degree,

gree, apprife fome perfons of its nature who might otherwife, on meeting with it, confider it as a nondefcript; or incite others, who have opportunities of feeing more of it, to add their knowledge to our prefent obfervations.

How far the ftate of the weather has had an effect in producing it, cannot, perhaps at prefent, be pofitively determined. Suffice it to fay, that the winter and fpring of 1797 had more frofty days than moftly occur, though none of the frofts were of long continued duration. This dry frofty weather was introduced by one of the coldeft nights and mornings perhaps known fince that of 1739 (the morn of Chriftmas day 1796), agreeably to what I think I have univerfally obferved, which is, that in the beginning of frofty winters the defcent of the mercury in the thermometer is in proportion to the quantity of froft that will enfue in that winter; fo that, if we obferve the loweft point to which it defcends, we fhall be able to predict the degree of froft upon the whole, and the average degree of cold for fome fucceeding months. Since that time there have been nearly regular fucceffions of rainy and dry weather, each lafting feveral months, there-

by confirming my conſtant obſervation, that Nature always ſtrikes a balance, by producing weather oppoſite in kind, and proportionate in duration, to that which has laſted for any extraordinary length of time.

In the winter and ſpring of 1797, a remarkable epidemic prevailed among the cats of London, which killed myriads of them. This diſeaſe was, from the difficulty of ſwallowing and pain on handling the throat, apparently an agina. There was in many a ſanious diſcharge from the noſtrils, and in ſome a running from the eyes; it was attended with great fever, quick laborious reſpiration, total inappetence, frequent retching and vomiting, ſtrong convulſions of the muſcles of the thorax and abdomen, dulneſs of the eyes, and a ſhaggy dry looſeneſs of the hair. Some of the animals died the ſecond day, but moſt died from the third to the ſixth day. A few lived longer, and died greatly emaciated, being unable to get down food or drink, and frequently vomiting mucus, ſometimes matter like pus. Cats that were with kitten or ſuckling ſeemed to fare beſt; the kittens, however, moſtly died. Some had purgings

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before death. The diſorder appeared ſlightly the next ſpring in London, but was, as I have been informed, much more common in the country.

I have been more particular in mentioning this diſeaſe, from an opinion, that much information, as to epidemics, might be gained by tracing their progreſs through the whole animal creation. Homer makes his plague begin with dogs and mules, and moſt accounts of other plagues ſtate a great previous mortality of cattle. A farther reaſon weighs with me for mentioning this, which is, that I have long entertained, and often mentioned to this Society, an idea that all infectious diſorders are originally derived from brutes. The cow pox has been lately demonſtrated to be ſo. The mange in dogs and cats I know to give the itch, and that of two ſorts, the one being evidently larger than the other.

In the ſummer of 1798, a diſorder prevailed much among horſes. This, as I was informed by ſome, appeared to be peripneumonic; others, however, ſaid it reſembled the glanders, there being conſtantly a great diſcharge of fœtid matter from the noſtrils:

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whichſoever it belonged to, all agreed that bleeding and the antiphlogiſtic regimen ſucceeded beſt in removing it.

If I were permitted to indulge in theoretical conjectures, I might trace epidemics to their ſource, in the following manner. Man's diet being both from the animal and vegetable kingdoms, and the former depending for food principally on the latter, a change probably takes place in vegetables prior to that in animals, and both ſerve to operate on man. The change in the vegetable creation muſt be produced, in a great meaſure, by the variations in the aerial and gazeous fluids with which it is ſurrounded; theſe variations act therefore both directly upon man, and alſo indirectly, through the medium of his aliment. Still farther, the variations in the atmoſphere are all produced by light or heat, which alſo act upon all nature and man, as well directly as indirectly, through the different gradations above mentioned.

From an examination of the preceding recital, I ſhould be inclined to dread the acceſs of ſome great peſtilential diſeaſe, which, I hope, however, the vigilance of our rulers will enable us to avert. To make ſuch a

diſorder prevalent two cauſes muſt always contribute. Theſe are called the prediſpoſing and occaſional cauſe. The firſt is commonly thought to exiſt in the air. Be that, however, as it may, we know that at ſome times the introduction of the worſt infectious diſorders into a country produces little or no effect, whilſt at others, it produces the moſt horrid devaſtation. In this reſpect the firſt may be likened to a collection of gunpowder, which is perfectly innocent if a ſpark of fire do not touch it; the ſpark is likewiſe harmleſs in itſelf if it be not communicated to the inflammable maſs. The occaſional cauſe, which is the ſpecific infection, reſembling the ſpark that is only noxious when it meets with the former.

I have been led to theſe reflections from having obſerved lately that ſome diſorders have taken a more malignant turn than ordinary, and being informed, by other practitioners, that they have made a ſimilar obſervation. The winter ſeaſon may, however, prevent all bad conſequences.

In September and October 1798, I was informed that a ſcarlet fever had been fatal to ſome adults about South Lambeth, and after-

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wards, during an attendance upon a caſe of it in that neighbourhood, was told that ſeveral children had died of it. It was not, however, until near the middle of November that I ſaw any fatal inſtance of it, at which time I met with ſome in that vicinity marked with ſuch ſtrong and peculiar features, as led me to extend my inquiries concerning it to different parts of the metropolis where it had been obſerved. The numbers that were ſeized with it in its very malignant form were not great, but the proportion of thoſe who periſhed was alarming. Five I have been aſſured died in one family, and three in another.

During the exiſtence of this diſeaſe a mild ſimple ſcarlatina alſo was ſeen ſometimes even in the ſame houſe. A typhus was likewiſe uncommonly fatal in proportion to the few who had it. The principal features of this laſt were great quietude, or rather drowſineſs, almoſt conſtant deſipientia, and total inſenſibility to the evacuations from nearly the beginning. Beſides theſe, and a ſmall irregular pulſe, there was little to create alarm, the tongue appearing clean, the ſkin feeling pleaſant, the ſto-

mach receiving drink and nouriſhment properly, and no violent evacuations ſeeming to prognoſticate diſſolution. And here I cannot avoid remarking, that I find thoſe caſes attended with moſt danger, where though ſome of the faculties ſhew great magnitude of diſeaſe, others ſeem natural and healthy. The ſymptoms are the principal means made uſe of by Nature to rid herſelf of any offending cauſe, and where ſome of theſe are languid and out of proportion to the reſt, it ſhews that ſhe is not properly rouſed, or is ſo oppreſſed by the greatneſs of the diſeaſe, as to be unable to exert herſelf. Perhaps diſſection would ſhew the cauſe of all ſuch diſorders to lie in the brain. Towards the cloſe of the epidemic ſome peripneumonies were ſeen, and I met with ſome ſtriking inſtances of the croup. In the latter copious doſes of the oxymel colchici ſeemed to have the beſt effect.

The angina of which I am treating was extremely ſudden in its attack. The patients were apparently as well, perhaps in the morning, as for a conſiderable length of time, when all at once in the evening they were ſeized with great ſickneſs, retching and vomiting

miting of bilious matter. This was followed quickly by heat of ſkin, headach, thirſt, and quickneſs of pulſe; to which before or in the morning was added that peculiar ſcarlet effloreſcence, from whence the diſorder is denominated. The danger of the diſorder afterwards was uſually in proportion to the violence of theſe firſt ſymptoms. The retchings continued in bad caſes, at intervals, during the greateſt part of the diſeaſe. In theſe caſes alſo the inflammatory ſymptoms increaſed greatly during the firſt days, particularly the heat of ſkin and ſtrength of pulſe, which latter was as full as often in pleuriſy, but not attended with ſo much hardneſs. The tongue appeared ſcarcely changed, only inclining to a little more redneſs; the eyes had likewiſe a ſlight red ſuffuſion. The bowels were not lax of themſelves, nor were made ſo by very gentle doſes of medicine, but when purged were apt to be too much ſo.

About the third or beginning of the fourth day a redneſs and ſwelling of the face, or oftener of one ſide of the face, was conſpicuous, affecting the noſe, and preventing the freedom of reſpiration through that organ. At the ſame time alſo ſwellings appeared in

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the throat on each ſide under the jaw. Theſe laſt increaſed very rapidly, ſo as in about two days to acquire ſuch an extraordinary ſize as to force the chin upwards, and to make, apparently, a ſtraight line from it along the throat and ſternum. In ſome extreme caſes the face, inſtead of being perpendicular, was almoſt horizontal, being held more out of its natural poſition than upon trial I find I can force mine by any muſcular exertion, even at the expence of conſiderable pain. This appearance, however, I am convinced, was heightened by the whole hollow of the throat being filled up by the tumours. The degree of this intumeſcence was very various in different perſons, but there was another much more unform ſymptom now attendant upon the diſorder, inſomuch that I have not heard of a ſingle ſevere caſe where it was wanting. This was a great diſcharge from the noſtrils, which came on about the fifth day. This was at firſt whitiſh, then yellow, but afterwards it became darker, with a moſt intolerable fœtor. This moſt offenſive diſcharge continued all the reſt of the diſorder where it terminated fatally. About the ſeventh day the pulſe, which had hitherto kept up tolerably,

lerably, ſunk entirely; their underſtanding alſo totally deſerted the patients. They now lay a miſerable ſpectacle of ſuffering humanity, breathing with labour through their mouth, which remained wide open, and which, together with their teeth and lips, became gradually covered with a black dry fur. The ſcarlet eruption did not decline at the time I remarked in my former treatiſe, but remained until the eighth or ninth day, when it gradually gave way to that purple appearance reſembling a perſon chilled with froſt, which is often ſeen in the end of typhus, and which is a ſure forerunner of deſtruction. This, however, at the laſt changed to a blue or livid colour, eſpecially about the throat; the tumours ſubſiding, but not totally diſappearing, whilſt life remained. The fatal period was about the tenth day in thoſe caſes which went on by the gradations juſt mentioned, the patient ſurviving without pulſe or ſenſes a longer time than is uſual in fevers of almoſt any kind.

Although the tenth day has been mentioned as a not uncommon period of fatality, which, I believe, few ſurvived who did not recover, yet in ſome it run through all its ſtages with much more rapidity, killing ſo early

early as even the fourth day. But it ſeemed more proper to deſcribe the tedious caſes, as they ſhewed the gradations of the diſeaſe more diſtinctly. The rapid caſes alſo ſeemed to differ from them in nothing but in the quickneſs with which they went through the various ſtages.

It may ſeem ſurpriſing that nothing has been ſaid about the inſide of the throat. The fact is, the patients complained little, and but little, of pain there in the beginning, and in a few days even this was no more heard of. Deglutition was throughout ſcarcely, if at all, impeded. As to ocular examination of it; in the favourable caſes I could perceive little amiſs, and in the others I was deterred from ſo dangerous an experiment by the great attendant fœtor.

It might now be expected that I ſhould lay down a method of cure for ſo deplorable a malady, but this I beg leave to decline, from a thorough conviction that I know of no certain, nor even probable method of curing it. Nor have I yet found any candid intelligent practitioner who is more ſanguine as to the extreme caſes of it, and as to ſlight caſes, they recovered under every management. One

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reaſon, perhaps, for this uncertainty was, the few caſes any one individual had an opportunity of ſeeing, as it ſcarcely ſooner appeared than it diſappeared again, like a thunder ſtorm juſt touching us in its paſſage; nor would I have thought it worth a deſcription but for its extreme malignity, and a fear that it may again reviſit us when the ſeaſon of the year may be more favourable to its progreſs.

But although I cannot ſay what cured it, I can, I fear too decidedly, point out what did not.

Ever ſince the angina ſhewed ſuch malignity in the years immediately ſucceeding the great froſt of 39—40, it has been the too conſtant practice to have recourſe to Peruvian bark and cordials in all caſes of ſore throat. As to the bark, both in this diſorder and in typhus, or any other fever, I think it ſeldom ſerviceable where the tongue and lips are dry and dark coloured, and the teeth covered with a black fur. Nay, where there has only been a dryneſs of theſe parts, I have ſometimes ſeen the uſe of the bark ſpeedily produce that black furring, which is ever ſo bad a ſign, and which the common people denominate the black thruſh. I hope I ſhall not

not be underſtood here to depreciate the bark, in any other caſes, where it has been recommended, than in thoſe before mentioned. Few, I believe, hold that medicine in higher eſtimation than myſelf, but in proportion as a remedy may produce excellent effects, when adminiſtered with judgment, ſo may it be pernicious if given improperly. What has been ſaid of this remedy in the above ſtated caſes, may, perhaps, be extended in them to wine and cordials. But howſoever the caſe may be in other diſorders, I am convinced that, in that particularly now treated of, theſe remedies produced no ſalutary effect. The ſame may be ſaid of bliſters and other ſtimulants, though I have heard them praiſed by ſome becauſe they had been uſed in caſes, which being ſlight, the patients recovered, and would have done ſo, had any other method been followed. I had but one opportunity of trying the vitriolic acid, which was on a patient whom I ſaw firſt only on the fifth day of the diſeaſe, and whoſe ſituation gave me at the very firſt view, a moſt unfavourable idea of its exit. This, therefore, terminating fatally, would ſcarcely deter me from its uſe; but from an attentive conſide-

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ration of the ſymptoms, ſo very different from the ſcarlatina formerly deſcribed by me, I muſt own myſelf not at all prepoſſeſſed in favour of this acid in a diſeaſe of the preſent complexion. The antiphlogiſtic regimen, and bleeding, I have likewiſe heard were tried with no better ſucceſs. But as to this I muſt remark, that the information came from a perſon on whoſe talent for obſervation much reliance could not be placed, which in medical matters I account to be of the higheſt importance: without doubt, at the cloſe of the diſtemper, ſuch methods would be highly improper, but that they were ſo in the beginning, in all circumſtances and degrees, ſeems to me not ſo clear or probable.

Having ſtated the bad ſucceſs of theſe methods of treatment, it may be aſked what method ought to be followed. To theoriſts, indeed, the anſwer might be impoſſible, who having dreſſed up the old doctrine of ſtrictum et laxum, under the new-fangled names of atony and ſpaſm, excitement and collapſe, &c. ſee nothing in all medicine but the application of two general rules. An experienced and diligent practitioner will however

ſee

ſee that there are ſtill left untried many of the moſt powerful articles of the materia medica; I ſhall only ſay, that from experience I can venture to recommend nothing, and that whatever means are uſed muſt be prompt and powerful.

ARTICLE XL.

Physical Hints and Queries.

By JAMES SIMS, M.D, &c.

Read FEBRUARY 4, 1799.

1. In philosophizing there are two grand sources of error. The first is the determining what any thing is prior to the making proper experiments upon it. The second is not less important and common; it is the taking for certain the first conclusions drawn from appearances, without sedulously examining all the various causes that may produce or affect those appearances. In no instance have these causes of mistake operated, perhaps, more powerfully or uniformly than in the different opinions concerning the parts and constitution of this world which we inhabit. True philosophy consists in being very

very circumſpect in attaining all the neceſſary facts, but having them, being fearleſs as to the concluſions to which they may lead. Truth can never do harm, nor need an apology.

Matter has been ſaid to be totally inert, and modern philoſophers have diſcourſed of the vis inertiæ, or the power of inactivity, in other words, the activity of inaction. Were I to ſtate my opinion, it would be, that every particle of matter in all nature poſſeſſes a variety of inherent powers of motion and action, nay, is in a continual ſtate of activity.

If a ſtone be held in the hand, it ſeems inert; but remove the hand, and it inſtantly falls to the ground: what kept it, then, in a ſtate of apparent inactivity? The ſtronger action of the hand. A horſe is not in a ſtate of inactivity who is pulling at a load which he cannot move, his inaction is only apparent; cut his harneſs, and his activity is inſtantly evidenced by his rapid motion forward. Gravity is, therefore, an action.

The vis inertiæ is ſaid to be in proportion to the quantity of matter in any body. Thus

a ton

a ton weight is beyond the power of any man to move from the ground. But put it in one ſcale, and an exact equivalent in the other, and if the beam be a good one, a ſingle horſe hair will move both of them up and down, or ſtop them if in motion. What, then, was their vis inertiæ in the firſt inſtance, but their power of gravity acting uncontrouled, and preventing motion?

The vis inertiæ, as it is called by ſome, of moving bodies, or that power by which they reſiſt being ſtopped, which ſeems to be the ſame as their momentum, is ſaid to be in proportion to their quantity of matter and the velocity of the motion. But is it not evident from the caſe above mentioned, where two tons when in motion are ſo eaſily ſtopped, that the power requiſite to ſtop motion, has nothing to do with the quantity of matter moved, but only with the power firſt moving it, to which it muſt ever be equal?

If a weight be ſupported by a cord it appears inactive; cut the cord, and by its inſtant motion downwards, it ſhews the contrary: what, then, hindered it from falling? The coheſion of the cord. Remove this commonly

monly called attraction of cohesion, and the action of the cord ceases. Cohesion is then an action. Gravity and cohesion have been lately called laws; but can law mean here any thing else but the measure of an action? A few have indeed attempted to explain this particular action of solids, by referring it to an ideal æther, or the general action of the atmosphere, called its pressure; but this is only transferring the action from one species of matter to another; and is there any proportion between the weight that may be supported by a silk cord, or an iron pillar, and the weight of the air pressing upon their surface?

Lay a piece of dry wood upon the floor, it appears inactive, as to heat; but throw it upon the fire, and it soon catches flame. It may be said that the fire acts upon it, that is, the wood formerly set on fire is active, and the latter piece becomes, when burning, active in its turn to other pieces heaped upon it. A mass of gunpowder may remain long quiet, but let a spark of fire be applied to it, and it instantly shews tremendous activity. Fire is always in action.

A bullet is quiet when lying on the earth, but when propelled from the mouth of a can-

non it rends walls or ſhips. It would ſeem not to require a Solomon to tell us that motion is action, at leaſt when impeded by any ſubſtance whatever, yet has it been called a law. All matter when put into the action of motion, continues ſo to act until ſtopt by as ſtrong an action as what firſt moved it. This is the law, but the cauſe is the inherent power of ſo moving, or, in other words, acting. The ancient philoſopher thought that the beſt argument to convince his antagoniſt, who denied the exiſtence of motion, was to riſe up and walk; and a man of plain common ſenſe made uſe of a ſimilar mode with the ingenious biſhop Berkeley, who denied matter altogether, but who having run his head againſt a poſt, the other ironically ſaid, "it is no matter." The ſame mode of arguing might be uſed here, but I hope that they who do not conſider motion as action will not be ſo fully convinced of their theory as to expoſe themſelves to a battery of cannon, otherwiſe one of the bullets may give too convincing a proof of its deſtructive activity. The converſe of this propoſition is alſo true; action is motion, or, at leaſt, an attempt to move.

The ſeed of a vegetable when planted in

the ground, is firſt acted on by heat, moiſture, and the earth; theſe three then, which are material, are all in action. The ſeed alſo ſoon becomes active of itſelf, it increaſes, ſhoots out a ſtem, removes the earth from above it, and raiſes itſelf aloft, where it produces for our uſe other ſeeds like itſelf. Thus not a bit of bread which we eat, but ſhews the activity of matter. If the vegetable were a fruit tree, after a certain number of years it becomes active to the annual production of fruit, each of which are capable of producing of other trees, agreeable to regular ſtated laws. Unleſs we allow a ſoul in plants, the ſenſitive ones will ever ſhew to the meaneſt underſtanding an activity in them: whilſt to the cultivated mind the whole vegetable kingdom demonſtrates ſimilar though weaker action.

Every change which we ſee or can produce, ariſes from the activity of matter. Thus effervеſcence, boiling, diſtillation, and fermentation, with their products, all depend upon it. But to the chemiſt all Nature ſhews its activity, there not being a ſingle particle of matter in this nether world which does not act, chemically, upon ſome other. All

the tables of elective attractions are only a few of the infinitely varying actions of the different parts of matter.

A fluid cannot become ſolid, nor a ſolid fluid, but by the action of matter. Heat and cold univerſally ſhew it; light is in continued and very varied action. Electricity exiſts every where, one of the moſt active ſubſtances.

Magnetiſm is an action of ſome particular parts of matter, familiar to, and conceivable by, the weakeſt mind.

Some philoſophers have gone ſo far, as to allow of one ſpecies of matter being poſſeſſed of activity, whilſt they deny it to all the reſt. This highly favoured matter of theirs is electricity, or, perhaps, the element of fire. Whenſoever they are able to deduce experimentally all, or moſt of the infinitely numerous actions of Nature from that one, I ſhall not object to their ſyſtem. In the mean time it may be remarked, that they have got over the ſtumbling block of all who regulate their opinion of Nature not by what is to be ſeen in it, but by ſyſtems formed a priore. Let me alſo aſk whether it be a whit leſs objectionable, or irrational, to

allow activity to one species of matter, than to all? Does it not appear that the different parts, or particles of matter, are endued with activity different both in kind and degree? Electricity, or fire, therefore possessing great degrees of it, is allowed by them this superior privilege, whilst all other matter is left in its supposed inactive situation.

Besides the rapid powerful fire emitted by electricity, it has other well known powers of attraction and repulsion, which the hardiest stickler for the inactivity of matter will find difficult to account for.—Capillary tubes also shew an action upon fluids, so powerful, as even to conquer the effect of gravity.—The elasticity of cords, and various animal and vegetable substances, is very great. But that is much exceeded by springs of metals, particularly steel, as is evinced among various machines, by the common watch or time-piece.

I have not mentioned the retarding action of the friction or attrition of machines in motion, as, I believe, that will mostly be found not to exist, except as an action of gravitation. Thus in a beam and scales the descending weight is placed at a less distance from a perpendicular

cular line drawn through the point of ſuſpenſion, than the aſcending, in proportion as it goes down; a greater weight, therefore, becomes gradually neceſſary to carry it lower: in machines with wheels, as coaches, during the revolution there is a conſtant attempt to place the weight higher, and in pullies the ſame thing happens in the machine independent of the raiſing of the weight. Something ſimilar, perhaps, takes place in all other pieces of mechaniſm where friction has been ſaid to do ſo much, but where, in reality, the effect is produced by ſmall differences of gravity, the action of which, in that particular inſtance, is not readily and evidently perceived, and therefore is not taken into calculation.

Thus not a houſe or ſhip which we build, not the clothes which we wear, not a barometer, thermometer, hygrometer, clock, nor watch, we contrive, but tells us the activity of matter. Not a tree nor plant which ſurround us, and afford us nouriſhment and health, not a river which runs, nor the ample ſea which receives them all, with its various tides and currents, but holds out the ſame doctrine. Every breath of wind

that blows, cloud that ſkims ſublimely along, and even rain, hail, or ſnow, demonſtrates it. Muſic, with all its faſcinating charms, conveys it to our ſouls. The majeſtically rolling thunder proclaims it aloud; the vivid lightning's flaſh infixes it in our hearts. Volcanos and earthquakes bring the moſt terrific evidence of it. The ſtars and moon by night give their apparently feeble teſtimony in favour of it, and during the day the enlivening, glorious ſun, blazes it forth to all mankind. Nothing that we ſmell, taſte, feel, hear, or ſee, but ſhews it; the earth, and probably all Nature, is held together by it: let us then not vilify the works of the Supreme, who has made nothing ignoble, nothing uninſtructive, nothing baſe, uſeleſs, nor inactive.

2. Let us next examine what are the probable conſequences of this activity of matter. The powers of man are extremely limited as to matter. We can no more deſtroy a ſingle particle of matter than we can create the whole univerſe; nay, perhaps, we cannot even change its elements. But is Nature, or, in more proper words, the order eſtabliſhed by the *Supreme*, ſo limited in its operations?

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It can probably change all the elements, and it is poſſible that to it there is but one element. If ſo, is not that one light? The matter of heat and electricity being but modifications of it: from theſe then, by a farther ſtep, are not the different ſpecies of airs formed? Thus, when water is made to boil in tranſparent veſſels, air bubbles are ſeen to ariſe conſtantly from the bottom. Is not this a converſion of fire into air? That this latter, with the aſſiſtance of the former, produces water, we know, by the recently invented experiments of that greateſt of chemiſts, Lavoiſier; and do we not ſee it every day confirmed in the formation of rain, which I have ſeen in the Alps formed under my feet, in the drieſt ſpots, where evaporation ſeemed impoſſible? Is not air alſo changed into water by animal reſpiration? From all theſe elements operating together are not, poſſibly, earths, ſalts, and metals, produced, in ſhort, all the bodies uſually denominated ſolid? I remember an experiment quoted by a late ingenious profeſſor, which, if accurate, ſeemed to prove the laſt query. This was, that water on repeated diſtillation always left a reſiduum of earth behind, and that

that the proportion of this refiduum was greater in every fucceeding diftillation. If this be true, is not the whole convertible into earth? But to leave what I fear is a doubtful experiment, do not the trials of plants growing in water folely, or in mould watered every day, in which cafe the earth is not diminifhed though the vegetable increafes greatly, fhew this converfion in a ftriking manner?

It will to fome appear impoffible that all the moft denfe bodies fhould thus be formed, from light or heat, which they conceive to be fo inconceivably rare. The fuppofition of the vaft tenuity of this element is borrowed from its poffeffing little gravity, which is thus made the fole teft of denfity. But has the body, which penetrates all others with the utmoft facility, more and greater interftices than thofe that are penetrated by it?

3. If this converfion of what appear to us as elements be true, to what conclufions will it lead us? Muft not this globe which we inhabit be neceffarily increafing in bulk every day?

That this is the cafe may be inferred from the vaft variety of matters which were beyond

yond all controverſy formerly on its ſurface, and which we now find buried in its bowels at various depths. Theſe are found not only under vallies, and in the deepeſt mines, but alſo under high hills, and even mountains. They are found frequently with little alteration, and in a high ſtate of preſervation. They conſiſt principally of the hardeſt parts of animals and vegetables. Thus of the former we have the ſhells of land ſnails, cockles, eſcalops, perriwinkles, echini, and others; the horns of mooſe deer; the teeth, bones, and even entire ſkeletons of fiſh and land animals: of the latter kingdom we find the trunks of roots of trees, and alſo their nuts, fruits, cones, buds, chives, and even leaves. Of this I once ſaw a remarkable inſtance in a neighbouring kingdom. A well was ſinking near the ſummit of a hill; after paſſing through above ſixty yards of a tough blue clay, the miners came to a turf bog, or peat moſs, as it is called here. Near the bottom of this laſt was found a quantity of hazel nuts, and even leaves of the trees, a handful of which nuts I preſerved for a great length of time. They were at firſt wet, ſoft, and ſeemingly ſwelled by the moiſture, and, on

on growing dry, they became very friable, never regaining their confiftence, although they retained their fhape and appearance. The leaves foon crumbled into duft. This incident, trifling and irrelevant as it may appear, which happened about thirty years ago, was the firft caufe of my doubting the Newtonian fyftem, and indulging in the before-written fpeculations.

Pieces of timber, fafhioned for the various purpofes of houfes, have been dug up at great depths, and parts of houfes have even been found there. There is alfo fcarcely an animal or vegetable, or part of them, which is not found petrified in various places at different depths, befides the echinitæ, oftracitæ, conchitæ, muitæ, cochlitæ, clenitæ, or pectinitæ, and infects and other things inclofed in amber.

Some writers have thought that thefe fhells, &c. were produced where found; but this is too ridiculous to need refutation. Others have afcribed all to the general deluge; but this being avowedly a miracle, is an unfit fubject of natural hiftory. Linnæus, one of the moft religious of men, laying afide this laft as a caufe, thinks, that at

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the creation the whole globe was covered by the ſea except the top of one mountain, which was called the garden of Eden, and that ever ſince that time the water had been uniformly retiring, and the habitable land thereby increaſing. But unluckily for this theory, during the laſt 2000 years, of which we have an accurate account, is it certain that the ſea has been gaining upon the land leſs in ſome places than it has loſt in others?

4. Continuing this ſyſtem, I would ſay, that throughout all Nature the parts of matter, within certain limits, and under certain regulations, have the power of producing their like through the medium of theſe changes of the elements. The faculty which animals and vegetables have of generating their own ſpecies is well known, but the general rule mentioned above, extends vaſtly farther, The ſeveral parts of living animals have a ſimilar power: thus bone is produced by bone, tendon by tendon, blood veſſel by blood veſſel, and nerve by nerve, as may be known by deſtroying ſome part of any of theſe. The ſame happens as to parts of vegetables, and in the mineral kingdom does not the ſame thing occur to a very great extent? The proofs

proofs and consequences of this I have not time at present to lay before you, but shall endeavour to collect them into a future paper for the use of the Society, together with many other parts of the subject, among which the following will not be the least interesting.

5. If the foregoing changes be thoroughly ascertained and scrutinized, may we not hope in time to be able to predict the alterations that are to happen in our atmosphere by them? It is possible that each of its constituent parts are increased and diminished with regularity in a kind of circle. That this is the case with heat we well know, which has a daily as well as annual circle. We shall, perhaps, in time have instruments to measure the quantity of oxygen, hydrogen, azot, &c. in the air, as well as thermometers and barometers. The circle then of all the species of air will be known to us, and we shall be able to foresee those conjunctions of them which produce all the different known effects on the weather, &c. in a way similar to our foresight of the conjunctions of the planets by calculating their different circles.

It is, perhaps, from these circles coinciding

at times, and then neceſſarily diverging, that the atmoſphere preſerves that balance which is requiſite for the production of vegetables, and, therefore, for the preſervation of animal life. If it were otherwiſe, one ſtate of weather might laſt ſo long as to extinguiſh totally the fertility of Nature. When, likewiſe, the different requiſites for the production of one ſort of weather coincide ſo accurately as to produce it to an extreme, and for a long continuance, it muſt be a longer time before ſuch a coincidence can again occur; and the oppoſite condition of the air will therefore laſt for a length of time proportionate to the continuance of the former ſtate. The accuracy of the coincidence juſt mentioned may be judged of, in ſome caſes, at the very beginning. Thus when at the onſet of either a hot or cold ſeaſon there is a day in the extreme either way, we may, I believe, moſtly expect a proportionate continuance of that ſpecies of weather.

6. Should we be able to foretell the changes in our atmoſphere, the moſt important conſequences would neceſſarily enſue. A year unproductive of grain would be foreſeen, and ſo a ſcarcity or famine prevented. Hurricanes,

froſt,

frost, or great heats, we should be able to prepare for. Epizootic maladies being the consequences of the state of the air and vegetation combined, would be foreknown, and, therefore, probably prevented in man, if not in other animals. The human body, possibly, deriving a great part of its susceptibility of infectious feverish disorders from the state of the atmosphere, from which these disorders derive also much of their virulence, may we not hope in time to be able to prevent, or, in a great measure, to counteract them?

7. Finally, in all our researches into Nature, let us take accurate experiment for our sole guide, laying aside all preconceived positions, such as, that matter can neither act nor move of itself, by which is meant, independent of all but the *first great Cause*: and let our motto be

Nil mortalibus arduum est.

ARTICLE

ARTICLE XLI.

Hiſtory of a Caſe of Incyſted Dropſy, with an Account of the Appearances on Diſſection.

By SAYER WALKER, M. D.

TREASURER OF THE MEDICAL SOCIETY OF LONDON, PHYSICIAN IN ORDINARY TO THE LONDON LYING IN HOSPITAL AND TO THE CITY DISPENSARY.

Read February 18, 1799.

The diſcovery, by diſſection, of the nature and degree of thoſe morbid actions which have been produced in the human frame, and of thoſe changes of ſtructure which have taken place, is one of the greateſt advantages we enjoy for obtaining a rational and well-founded ſyſtem of pathology; and to report the appearances which occur on theſe occaſions, in connexion with a hiſtory of the preceding diſeaſe, is an important mean of promoting the ſcience of medicine.

About twelve months ago the preſident reported to the Society a caſe of an extraordinary enlargement of the abdomen, attended with peculiar appearances. My curioſity being ex-

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cited, and receiving permiſſion from the preſident to call upon the patient, I embraced the firſt opportunity; and being requeſted by the family to repeat the viſit as often as convenient, I continued to call upon her, occaſionally, to the time of her death, which happened in the month of January. Having, at different times, obtained from the patient and her friends various articles of intelligence reſpecting the caſe, I have drawn up the following hiſtory of it.

Mrs. G——, aged 45, of a ſlender make and delicate conſtitution, about five years ago, firſt perceived a tumour on the left ſide of the abdomen, of which, for ſome time, ſhe took but little notice; but, obſerving that it increaſed in ſize and extended over the whole abdomen, ſhe paid more particular attention to it. It may be proper here to relate that, about twelve months before, ſhe had been delivered of a large child after a very tedious and difficult labour; and, upon obſerving her gradual increaſe of ſize, ſhe began to ſuſpect ſhe was again pregnant. The ſymptoms of pregnancy, however, becoming leſs evident, it was natural to attribute the appearances to ſome other cauſe, and it was ſoon inſiſted

upon by her friends, that ſome medical aſſiſtance ſhould be requeſted.

We are not able, however, to trace back the ſymptoms or treatment of the caſe farther than to the time when Dr. Sims attended her, during which period ſeveral other medical gentlemen alſo occaſionally ſaw her. A variety of opinions was at this time entertained reſpecting the nature, the cauſe, and original ſeat of the diſeaſe: but obſerving the hardneſs of the abdomen, and not being able to diſcover any fluctuation, the enlargement was very generally ſuppoſed to ariſe rather from ſome ſolid fleſhy ſubſtance, than from a morbid accumulation of any fluid.

During this period of the diſeaſe a variety of medicines was adminiſtered. Calomel was repeatedly uſed, and mercurial frictions were perſiſted in for ſome time, but without any apparent mitigation of ſymptoms.

Frictions, with oil, were tried; from theſe the patient thought ſhe derived ſome advantage. Cremor tartari, digitalis, oxym. colchici, were all of them occaſionally adminiſtered, but without any permanent relief. By the direction of Dr. Sims, a puncture at the umbilicus was made with a lancet,

upon which there was a diſcharge of ſome ounces of a glairy fluid.

It was not till ſome time after this that I had an opportunity of ſeeing the patient, and of inquiring into the nature of the caſe. At the firſt interview I thought her appearance the moſt ſtriking that I ever beheld. Her ſize was enormous, and the form of the tumour very uncommon; the upper ſurface of it aſſuming ſo horizontal a direction, that it would have formed a convenient deſk, upon which to have placed a quarto volume. Upon examining the ſtate of the abdomen, I found a pretty equally extended tumour, though rather larger on the left than on the right ſide; the ſkin exhibited a very ſhining appearance; the veins were turgid and varicoſe; the integuments were ſo tenſe and hard, that it was difficult to make any impreſſion upon them; the fluctuation was very indiſtinct, and ſometimes not to be perceived.

Upon examining the ſtate of the different functions, I found them, upon the whole, leſs deranged, than might have been expected. The pulſe was, in general, in a tolerably natural ſtate; though ſometimes feeble and quick,

quick, and attended with occaſional intermiſſions.

Reſpiration was frequently difficult and laborious, eſpecially in a reclining poſture; this, indeed, is not ſurpriſing, when we conſider how much preſſure there muſt have been on the diaphragm and other reſpiratory organs. The belly was frequently coſtive, in which ſtate, as might be expected, moſt of the ſymptoms were conſiderably aggravated. The urine, though ſometimes ſufficiently copious, was, at other times, diſcharged in ſmall quantities, and of a high colour.

The appetite was, in general, pretty good; though the digeſtion was ſometimes impeded, and a degree of flatulence in the ſtomach occaſioned uneaſineſs and pain.

The thirſt was moderate, and, with a view to prevent an increaſed accumulation of fluid, the patient was contented to drink leſs than ſhe might otherwiſe have choſen.

In the latter ſtages of the diſeaſe her ſleep was much interrupted, and her nights, in general, very tedious: this was, in a great meaſure, owing to the difficulty of moving herſelf in bed, it requiring the aſſiſtance of

one or two ſtrong perſons to move her from one ſide to the other.

During the whole of the diſeaſe the catamenia continued regular till within a very few months of her death.

In ſome of the latter months of the diſeaſe an anaſarcous ſwelling of the legs appeared; which circumſtance added to her diſtreſs, as it rendered her leſs capable of moving about the room.

After having ſeen the patient a few times, and obſerving that ſome fluctuation might be perceived, though it was, in general, very indiſtinct, I ſuggeſted to Dr. Sims the propriety of repeating the operation with the lancet, which he had before directed, or, of introducing the trocar if it could be done with ſafety. A meeting with Mr. Norris was accordingly appointed, who, upon examining the ſtate of the abdomen, obſerved that the fluctuation was more diſtinct than he had before perceived it, and gave it as his opinion, that the operation of paracenteſis might be performed with ſafety, but with little proſpect of material advantage. Though a radical cure was not to be expected, and though the hope of any permanent relief

was very feeble, it was determined that it ſhould be propoſed to the patient, as a meaſure from which ſome advantage might be derived. Her objection to the operation, however, occaſioned its being deferred, and the ſame objection remaining, it was entirely given up.

The more powerful remedies having been tried in vain in the earlier ſtages of the diſeaſe, all that could now be attempted was the uſe of a few palliatives, in order to relieve the different ſymptoms as they occurred.

In order to obviate coſtiveneſs, which was ſometimes very troubleſome, gentle eccoprotic medicines were preſcribed.

When the urine was ſcanty, the diſcharge of it was promoted by the uſe of different diuretics. Sometimes kali acetat, at other times different preparations of the ſquill anſwered the purpoſe.

The appetite ſometimes failing, infuſ. gent. comp. with ſome aromatic tincture was adminiſtered.

Suppoſing that ſhe derived advantage from the uſe of ſome ſimple remedies which were recommended by different friends, ſhe was directed to continue the uſe of them; though,

 when

when more operative medicines had failed, there was no probability that theſe ſhould anſwer any material purpoſe.

In this, or nearly in the ſame ſtate, every thing remained for ſeveral months, till within about a fortnight of the patient's death. At this time the difficulty of reſpiration was very much increaſed, comatoſe ſymptoms ſupervened, and other appearances indicated an impeded return of blood from the head.

The countenance exhibited every ſign of approaching diſſolution, a livid tinge covered her cheeks and lips, and afterwards a weak and intermitting pulſe, with coldneſs of extremities, announced the ſpeedy termination of her ſufferings. A few hours afterwards ſhe died in her chair.

APPEARANCES ON DISSECTION.

On the day after death the body was opened by Mr. Norris, in the preſence of Dr. Sims, myſelf, and other medical gentlemen.

The parietes of the abdomen were ſo extremely thin, that the knife had hardly penetrated the common integuments, before a

fluid

fluid of a gelatinous confiftence made its appearance, and was followed by feveral quarts of a different colour and of various confiftence. When the integuments were laid back, and the cavity of the abdomen was fully expofed, a very large unequal tumour prefented itfelf to view, reaching from the os pubis to the enfiform cartilage, and occupying the whole anterior region of the abdomen, difplacing and concealing from view the inteftines, and other vifcera. Adhefions were formed between the tumour and almoft every part of the peritonæum, lining the parietes of the abdomen anteriorly, from which this mafs was carefully feparated and traced down to the left fide of the uterus, from which it was finally feparated and removed into a large tub, in order to be farther examined. Previoufly to the examination of this extraneous mafs, we proceeded to infpect the ftate of the different vifcera contained in the abdomen.

The external furface of the ftomach exhibited a very natural and healthy appearance.

The liver was of a colour rather darker than that which it affumes in its ufual and healthy ftate, and of a more compact texture, though not in a fcirrhous ftate.

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The ſpleen was rather larger in its ſize, and of a firmer conſiſtence, than uſual.

The inteſtines were very much contracted in their ſize, as might be expected, from the very compreſſed ſtate in which they muſt have remained for a conſiderable time.

The kidneys and bladder were in a very ſound and healthy ſtate.

Upon examining the uterus the whole body of it exhibited a very natural and healthy appearance. The fallopian tube on the right ſide, and likewiſe the ovarium, were in a perfectly ſound ſtate: but on the left ſide there was no appearance of theſe appendages of the uterus, except what the tumour afforded, which, without doubt, was a morbid enlargement of the ovarium.

The maſs which had been removed from the left ſide of the uterus, as before related, was found, upon examination, to conſiſt of a large number of cyſts of different ſtructures and of various contents. Some of theſe were of a membranous ſtructure, and others of a thick fleſhy ſubſtance. Some of them diſcovered a ſcirrhous-like hardneſs, and others were compoſed, in part, of a ſubſtance of a cartilaginous ſtructure. Theſe, though ſeparate cyſts, were very cloſely united, and,

in ſome inſtances, ſeemed to communicate with each other.

The contents of the different cyſts varied very much in their colour and conſiſtence. In ſome of them they bore a reſemblance to the ſerum of the blood; in others they were of a gelatinous conſiſtence: in ſome they aſſumed a purulent appearance, and in others were of a ſebaceous or ſteatomatous conſiſtence.

The ſolid ſubſtance, after the evacuation of the fluids, was weighed, and its weight amounted to 31¼℔.

The different fluids, which were collected, amounted to ſeven gallons. So that it appears that the patient muſt have been incumbered with an extraordinary weight of nearly 90℔.

After thus relating the various ſymptoms and extraordinary appearances of the preſent caſe, I ſhall take the liberty of making the following obſervations.

This ſpecies of dropſy, though leſs frequent than others, has been ſometimes detected by an inſpection of bodies after death. Were the opportunity of inſpection more frequent, or did the public prejudice interfere leſs with this

mode

mode of aſcertaining the nature, the ſeat, and cauſes of diſeaſe, it would probably be found, that many of thoſe diſeaſes, which are included under the general term dropſy, and which have paſſed for aſcites or anaſarca, or a combination of both, are of the ſpecies which has now been deſcribed. A caſe, in ſome reſpects, ſimilar to the preſent, was related by Dr. Pulteney, and is preſerved in the Memoirs of the Society. In this caſe the ſolid maſs deſcribed bore a near reſemblance to that which has been the ſubject of a part of the preſent paper: but the diſproportion in the quantity of fluid was very great, ſince the whole, which could be collected in that inſtance, amounted only to four or five pints, whereas, in the preſent inſtance, there was more than an equal number of gallons.

Of hydatids, which have been very commonly diſcovered in ſimilar caſes, not any were to be found in the preſent inſtance. Could the preſent maſs have been formed originally from hydatids, the coats of which, in the long courſe of five years, were thickened to the degree in which the coats of the different cyſts were diſcovered? Or can it be

ſuppoſed

ſuppoſed that the different cyſts, which compoſed the maſs that has been deſcribed, bore any analogy to the number of veſicles in the original ſtructure of the ovarium?

From the nature of the diſeaſe, which was ſo fully aſcertained by diſſection, it appears evidently to have been out of the reach of medicine, and adds another inſtance to the many which have occurred of the diſcovery of the cauſe of the diſeaſe, with the mortifying proof that nothing could be done in a ſimilar caſe, from which the hope of a cure could be derived.

It appears probable, however, in the preſent inſtance, that, if the patient would have ſubmitted to the operation propoſed, a conſiderable quantity of the incloſed fluid might have been diſcharged. This appears pretty evident from the quantity which eſcaped as ſoon as the integuments were punctured. Part of the preſſure on the different viſcera might in this way have been removed, the reſpiratory organs might have been, in ſome meaſure, relieved, and that ſtate of ſuffocation which ſeemed to be the more immediate cauſe of death, might have been poſtponed to a later period.

APPENDIX.

ARTICLE XLII.

A Case of Cæsarean Section. *

By WILLIAM WOOD,

MEMBER OF THE CORPORATION OF SURGEONS IN LONDON, AND MAN-MIDWIFE IN ORDINARY TO THE LYING-IN HOSPITAL IN MANCHESTER.

Elizabeth Thompson, of Hazlehurſt, near Aſhton-under-Line, aged thirty-two, was brought to the Lying-in Hoſpital, on Monday the 24th of laſt June. I ſaw her in the afternoon, and was informed that labour came on about one o'clock in the morning; that the membranes burſt ſoon after; that her pains had been very frequent; and that Mr. Ogden, a ſurgeon in that neighbour-

* This paper having been received too late for regular inſertion, the Society have thought proper to give it place as an Appendix.

hood, was called in, who, upon examining her ſituation, thought proper to ſend for Mr. Simmons from Mancheſter. No attempt was made by either of theſe gentlemen to deliver the patient; but ſhe was adviſed to become an in-patient of the Lying-in Hoſpital in Mancheſter; and the poor woman and her friends readily agreeing to this propoſal, ſhe was conveyed in a cart from her houſe, which is nine miles diſtant from the Hoſpital, and ſome parts of the road are very rugged.

Upon a careful examination *per vaginam*, I found the pelvis ſo much deformed at the ſuperior aperture, that the ſpace from the *ſymphyſis pubis* to the *os ſacrum* would only admit the points of my two fingers, and could not exceed an inch; and there was not in any other point, from the anterior to the poſterior part of the ſuperior aperture, a larger ſpace than would admit the introduction of one finger; nor could I perceive the leaſt appearance of *os uteri* or any part of the child, although I introduced my hand into the vagina.

On diſcovering the extreme deformity of the pelvis, I deſired a conſultation of the men-midwives belonging to the Hoſpital. Meſſrs.

White, Hall, Tomlinſon, and Thorp, attended, and having examined the poor woman with great care and attention, we were unanimouſly of opinion, that the delivery could not be accompliſhed by any other means but the Cæſarean ſection. She was made acquainted with our ſentiments, and very willingly ſubmitted to our propoſal.

About nine o'clock that night I performed the operation in the following manner, in the preſence of the gentlemen before mentioned, who very obligingly gave me every neceſſary aſſiſtance: I began the inciſion on the left ſide, a little below the *umbilicus*, and having cut carefully through the parietes of the abdomen, which were very thin, to the extent of an inch, I introduced my finger, and, uſing it as a director, enlarged the wound by a probe-pointed biſtori, in an oblique direction towards the ſpine of the ilium, to about ſix inches. The uterus was placed in immediate contact with the parietes of the abdomen, at the upper part of the inciſion; but towards the lower angle of the wound the inteſtines intervened, and began to protrude. As ſoon as the external inciſion was completed, I made an opening in the ſame manner, and in a

 ſimilar

ſimilar direction, into the uterus, which appeared to be nearly half an inch in thickneſs, and with great eaſe extracted, by the knee, which preſented at the wound, a large male child, which for a few minutes was in a very weakly ſtate, but ſoon recovered, and continues ſtrong and healthy.

The placenta was brought away without any difficulty. The inteſtines protruded at the wound, but were returned and retained in the cavity of the abdomen, whilſt I ſecured the lips of the wound by the interrupted ſuture, carefully avoiding paſſing the needle through the peritonæum. The ligatures were placed about an inch diſtant from each other, and the intervening ſpaces were ſupported by ſlips of adheſive plaiſter, over which I placed a common pledget; and a flannel bandage was applied, ſo as to occaſion a moderate degree of preſſure upon the abdomen. The quantity of blood loſt during the operation was not conſiderable. It did not appear to exceed eight ounces, and moſtly proceeded from the uterine veſſels.

The patient bore the operation with ſuch remarkable patience and fortitude, that ſhe was ſcarcely heard to complain.

As

As ſoon as ſhe was removed from the table, and laid in bed, ſhe became ſick and vomited; and her pulſe at this time beat 130 ſtrokes in a minute. An opiate was adminiſtered, and I ſaw her in two hours after the operation. Her pulſe was reduced to 100, and no ways irregular. She had got ſome comfortable ſleep, and the ſickneſs had not returned.

I ſaw her again, along with the gentlemen before mentioned, on Tueſday at eight o'clock, A. M. She had got ſome comfortable ſleep during the night: her pulſe 106.

She had voided a conſiderable quantity of urine; had a moderate diſcharge *per vaginam*; and ſhe did not complain of much pain. A ſmall quantity of bloody ſerum had oozed from the wound.

At two P. M. we found the appearances much the ſame as in the morning. As the patient had no evacuation by ſtool, an emollient clyſter was preſcribed.

Ten o'clock P. M. ſhe had experienced a return of the vomiting, and complained of more pain of the abdomen; but upon removing the bandage, we did not perceive any material degree of tenſion. Her pulſe 108, and rather hard. The clyſter not having

procured a ſtool, ſhe was ordered to take half an ounce of a purging ſalt immediately, and if it ſhould have no effect, or not ſtay upon the ſtomach, ſhe was to take a pill containing three grains of calomel, and one grain of purified opium.

On Wedneſday at ſeven, A. M. we found that her ſickneſs returned in an hour after the ſalts had been given, the pill was then adminiſtered, and the vomiting did not return for ſeveral hours after, but no evacuation had been procured. She had got little ſleep during the night, and ſtill complained of pain in the lower part of the abdomen. Her pulſe was 120, and rather hard, tongue white, and ſkin dry. She was directed to take five grains of calomel made into a pill with conſerve.

At twelve we found that her ſickneſs had returned in about two hours after taking the pill, and that no ſtool had been procured. Her pulſe was about 144, and ſhe was in a violent ſtate of perſpiration. Half an ounce of caſtor oil was directed, and a purgative clyſter to be injected immediately. At four, P. M. her pulſe was much in the ſame ſtate; ſhe had experienced no return of vomiting, and ſeemed more compoſed. The clyſter had

had been retained, and ſhe was ordered another, compoſed of two drachms of tobacco infuſed in half a pint of boiling water.

Nine o'clock P. M. we found her much in the ſame ſtate as when we laſt ſaw her. The injections had come away, but there was very little appearance of fæces. Her ſickneſs was not ſo troubleſome, pulſe 140. As ſhe complained of more pain in the lower part of the abdomen, the bandage and dreſſings were removed, but there was very little tenſion. The wound had a very favourable appearance, and the lips were in contact. Dreſſings were applied as before, and ſhe was ordered to repeat the pill with calomel, and if it ſhould not operate in three hours, a clyſter with half an ounce of common ſalt was to be adminiſtered, and, as ſoon as an evacuation was procured, ſhe was to take a grain of purified opium. A bliſtering plaiſter was alſo applied to the abdomen, where the pain was felt.

Thurſday, ſeven o'clock A. M. ſhe had paſſed a tolerable night, the bliſter had riſen, and ſhe ſeemed more compoſed; pulſe 150. As the injection had been retained, ſhe was ordered a ſuppoſitory of ſoap.

Two o'clock P. M. appearances were much more unfavourable. She had very frequent vomitings of a coffee-coloured fluid. The pain in the abdomen was very much abated. Her pulſe was very feeble, and beat more than 160 ſtrokes in a minute. Till this time ſhe had obſerved an antiphlogiſtic regimen: but was now ordered wine in gruel and whey, and to take a bolus containing muſk and ſalt of hartſhorn, of each ten grains, which was to be repeated in four hours. As the clyſter had been voided without any appearance of fæces, another injection was ordered to be thrown up, with ſome degree of force, by a ſyringe.

At nine o'clock the ſymptoms were become ſo extremely unfavourable, as to preclude all hopes of her recovery; nor was ſhe likely to remain alive many hours. Her pulſe was exceſſively frequent, ſmall, and irregular. She had inceſſant ſickneſs and vomitings, was very reſtleſs, and her reſpiration much hurried. The injection had come away, but without producing any effect. From this time ſhe ſunk gradually, and expired on Friday about one o'clock A. M. which was ſeventy-ſix hours from the time of the operation being performed.

performed. She retained her ſenſes to the laſt.

APPEARANCES ON DISSECTION.

In about ſix hours after her death I inſpected the body, in the preſence of the gentlemen before mentioned, and ſome others, and found that the edges of the external wound were in cloſe contact, but only a very ſlight adheſion had taken place. On expoſing the cavity of the abdomen, there appeared to be about ten or twelve ounces of a bloody ſerum, but not much coagulated blood. There was very little appearance of inflammation, either of the peritonæum or inteſtines. The latter ſeemed much diſtended, but there did not appear to be any accumulation of hardened fæces.

On examining the uterus, which was about ſeven inches in length and four in breadth, we found its mouth very much dilated. The wound, which extended from the fundus obliquely downwards about four inches, was not at all united, and there was very little appearance of inflammation about it, but the inferior portion of the body and *cervix uteri* were evidently in a gangrenous ſtate.

REMARKS.

The deformity, above alluded to, was produced in the adult ſtate by *Malacoſteon.*

About nine years ago the poor woman brought forth a living child, and had an eaſy labour. After this confinement ſhe was frequently affected with pain about her loins, and ſome degree of lameneſs. She conceived again, and Mr. Hall informed me that he attended her in labour about ſeven years ago, and, at that time, found the pelvis ſo much diſtorted, that he was under the neceſſity of opening the head of the child, and delivering by the crotchet. Her ſtate of health after this was ſomewhat tolerable; but the pain about the loins continued to increaſe, attended with the lameneſs, but never to ſo great a degree as to prevent her walking.

From the inclination of the *fundus uteri* to the left ſide; from the parts of the child that preſented upon opening the uterus; and from the particular curvature of the ſpine, as appeared upon inſpecting the body, the *os uteri* and child's head appear to have been forced upon the right ſide of the pelvis, and to have remained conſiderably above the ſuperior aperture,

ture, which prevented their being diſcovered upon an examination *per vaginam.*

From a review of the caſe, there is very great reaſon to ſuppoſe that her death was not occaſioned by the operation, but by the gangrene that had taken place in the *cervix uteri*, which in my opinion muſt have been occaſioned by the preſſure of the child's head upon that part, prior to the operation; and I am induced to believe, had the operation been performed earlier, and at the patient's houſe, ſhe would have ſtood a great chance of recovering. The pelvis was removed, and when carefully diveſted of all the ſoft parts, the dimenſions were found as follow:

The *lumbar vertebræ* projected inwards, and made a conſiderable curve to the left, as will be ſeen in the annexed plate.

The diſtance from the lower part of the ſecond *lumbar vertebra* to the anterior part of the ſpine of the *os ilium*, on the left ſide, is two inches.

The diſtance from the lower part of the ſecond *lumbar vertebra* to the anterior part of the ſpine of the *os ilium*, on the right ſide, is five inches.

From

From the crista of one *os ilium* to the other, at the most distant points of the pelvis, measured ten inches and a half.

SUPERIOR APERTURE.

The conjugate or antero-posterior diameter from the *symphysis pubis* to the upper edge of the last *lumbar vertebra* A. A. (see the dotted outline) is one inch and a half.—This diameter is not taken from the *os sacrum*, or its junction with the last *lumbar vertebra*, because the point of their junction is so much sunk into the pelvis, that the place it should have occupied is represented by the fifth *lumbar vertebra*.

The transverse diameter G. G. measures four inches and five eighths. It is taken from one *sacro-iliac symphysis* to the other.

The distance of the point of this aperture, which is opposite to the anterior part of the right acetabulum, from the *lumbar vertebra*, C. C. is only half an inch.

The distance from that part of this aperture which corresponds with the posterior

part

part of the right *acetabulum*, to the *os ſacrum*, D. D. is three quarters of an inch.

The diſtance of the point correſponding with the anterior part of the left *acetabulum*, from the *lumbar vertebra*, in the direction E. E. is five eighths of an inch.

The diſtance of the point of this aperture, oppoſite to the poſterior part of the left *acetabulum*, from the *os ſacrum*, in the direction F. F. is three fourths of an inch.

The diſtance of one *os pubis* from the other, in the points marked B. B. is ſeven eighths of an inch.

The diſtance from the right *ſacro-iliac ſymphyſis* to the *ſymphyſis pubis*, G. A. is three inches and three fourths.

The diſtance from the right *ſacro-iliac ſymphyſis* to the left *os pubis*, G. B. is three inches and three eighths.

The diſtance from the left *ſacro-iliac ſymphyſis* to the *ſymphyſis pubis*, G. A. is three inches and five eighths.

The diſtance from the left *ſacro-iliac ſymphyſis* to the right *os pubis*, G. B. is three inches and one fourth.

The largeſt circle that can be formed in any part of the ſuperior aperture, does not exceed in diameter one inch.

INFERIOR APERTURE.

The diſtance from one *ramus oſſis iſchii* to the other, where they are united with the *rami pubis.* meaſures only half an inch.

The diſtance from the tuberoſity of one *os iſchium* to the other meaſures one inch and two tenths.

The conjugate or *antero-poſterior* diameter, taken from the *ſymphyſis pubis* to the point of the *os coccygis*, is three inches.

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